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J. J. FRAWLEY

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e Province of Alberta

IN THE MATTER OF THE PUBLIC INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the 12th day of October, A.D. 1938, to inquire into matters connected with Petroleum and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta JANUARY 9th, 1939

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"46" - Report as to re-pressuring of Turner Valley, prepared by the witness S. F. Shaw, and copied into the record, see page 1062, . . . 1062.

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January 9th, 1939.
10:30 A.M. Session

The Sittings of the Commission were resumed on the above date.

THE CHAIRMAN: Mr. Nolan, Major Lipsett would like to ask Dr. Link one or two more questions.

MR. NOLAN: Yes, my lord.

DR. THEODORE A.LINK, having been recalled.

Q THE CHAIRMAN: Dr. Link, you are still under oath?

A Yes.

Q MAJOR LIPSETT: Dr. Link, in reference to your working out of your estimates, as I understood it, it was on the basis of about 60% of the production was obtained from the wells in the first two years?

A In the first two years, yes.

Q And was your whole estimate made on that basis?

A That is on those four wells which I used.

Q On the four?

A Yes.

Q Now what I want to ask you to do, Dr. Link, is to look at the wells in Mr. Davies' report that have produced for over two years and see how that works out on your basis and I am just raising it now so that you can either look into it now or some other time. If you took, I took all the wells I think that produced for over two years?

A Yes.

Q And the first one I took was Advance 5-A, now I do not know if you have a copy of Mr. Davies' statement?

A No, I do not have it right here. With respect to Advance 5-A, it is a well which, well we do not know whether it really belongs, should really be classed as a crude well because of its high gas-oil ratio. As I understand it, Dr.

Boatright did not regard that as a really crude well, and the same applies to Miracle 2 and Model 1. Now the thing is, I think we should make up our minds whether we want to regard those wells as crude oil wells or whether they should be regarded as in the gas-cap area. Now the records for those three wells are much longer than two years. They reach up to six years, some of them, from, eight years, two of those came in 1930, you see.

Q Yes?

A Now with respect to that I have since made an estimate taking into account all the wells, not just four.

Q Yes, well I see that there is a point about this Advance 5-A. I would just like to give you the figures that I worked out, as I worked them out and then you can consider them?

A Yes.

Q As far as Advance 5-A is concerned, so far as I, subject to the figures being correct, I find that the first two complete years of production it produced about 47,000 barrels?

A That is Advance 5-A.

Q Advance 5-A?

A That sounds reasonable.

Q And since then it has produced 90,000 barrels?

A Yes.

Q Whereas it should only have produced about 25,000 barrels?

A Yes. Well in connection with these wells I called attention in my report to these wells, that they are not off-set by the wells to the West, that they have all the drainage, and I do not know how much acreage from which they can draw.

Q Now I will just continue with the next one, Dr. Link, the next one that seems to be over two years was Century Oils?

A That is not an oil well, that is definitely a naphtha well upon which we both agreed that we cannot include it in the oil area.

Q Mr. Nolan: Here is the report of Century, this is the Exhibit volume.

Q MAJOR LIPSETT: Exactly, in that case, subject to your point, Dr. Link, the point I want to get is that was one which produced 115,000 barrels in the first two years?

A Yes.

Q And up to October of this year it produced 54,000 barrels, that is approximately your figure?

A Yes.

Q Well then that well I take it is still continuing to produce?

A I do not know. I really cannot answer that question, whether Century is still producing, at least it is being regarded as a gas-cap well and it has all the time.

Q Well the next one I had was Miracle 2, that is the one you mentioned?

A Yes.

Q In that case roughly the figures are for the first two years it produced 74,000 barrels and since then 70,000 barrels?

A Miracle 2, I imagine those figures are correct, we probably used the same information.

Q I took it from Mr. Davies' report?

A Yes.

Q But it is of course subject to correction?

A Yes.

Q Do you know if that well is still going on producing?

A Miracle 2?

Q Yes?

A Yes. As you know there was an attempt to close it, made by the Conservation Board but it is still flowing, it has a very high gas-oil ratio, and the same applies to Advance 5-A and Model.

Q Then Model comes next I think?

A Yes.

Q Model 1 has produced over 400,000 barrels to date?

A Over 400,000, yes.

Q That is approximately right?

A Yes it is.

Q Its first two years as I have the figures, it produced 121,000 barrels?

A Yes.

Q And since then it has produced 328,000 barrels?

A Yes.

Q As against what it should have produced under your estimate of only 60,000?

A Yes. Well I am quite sure that no engineer would believe that all the wells in the field are going to act the way those three did that they are going to increase. As a matter of fact some of the graphs, it was plotted in my report, you will see at least one and possibly two of those plotted out showing that those wells were holding a steady production without much fluctuation. In some cases they actually went up, the last information being that they are going down slightly but we cannot use those wells as a criterion for this oil area as I have already pointed out because of the fact that those are not proper oil wells,- in the first place and in the second place they are not affected by any off-set well. You see, how much acreage these wells are draining we do not know, but when we put a well in each 40 acres, we naturally assume each well is going to be assigned 40 acres. Advance 5-A and Model may be draining 120 acres for all I know.

Q I am going to refer you to the other one which is over two years and that is the Highwood Sarcee?

A That is also a gas well.

Q That produced in the first two years 150,000 barrels?

A Of naphtha.

Q And in the subsequent year 71,000?

A Yes, and in the latter part of that well's life it is also producing oil from the Dalhousie sand. They perforated the pipe so that is not all from the limestone production, it is from the sand above.

Q Do you then put it, Dr. Link, that notwithstanding these, did you give any effect to these?

A Yes.

Q In your estimate?

A Yes. In these four wells of course that I took I did not. I couldn't incorporate them in the graph of the four wells but being such peculiarly situated wells, I couldn't very well regard them as in that proven area in the South end on the basis on which these four wells which I used were made.

Q In fact no effect in your estimate of two-thirds and one-third has been given to any of those wells?

A No. I have made another graph since then in which I included those wells and another one in which I excluded those wells; took into account all the wells; I have made what we call a "family graph" of all the crude wells, including those four wells and excluding those four wells, including two dry holes and excluding two dry holes, including those which have already stopped because of too high gas-oil ratios and excluding them.

Q I see. I just wanted to get your explanation about these which were the only ones over the two years that were in Mr. Davies' report?

A That is a very important point and it seems to throw out, apparently throw out my first-hand estimation.

Q THE CHAIRMAN: Dr. Link, when your counsel intervened

in the course of some observations by Mr. Frawley, to state what he appreciated to be the effect of your evidence, in that the field had a life of two years certain and probably three and no more, but the impression he sought to leave to the Commission and I wish you to verify it if it be so, was that the effect to be given to your evidence was that in your opinion the field had a life of two years certain, probably three years, but that there were some ten thousand acres that you did not take into account in expressing that opinion which might or might not prove to be productive in the matter of oil?

A That is exactly the impression I want to leave.

Q I just wanted this to be very clear that we understood that?

A Yes.

Q So that in your opinion the life of this field may or may not be greatly in excess of three years?

A Yes.

Q MAJOR LIPSETT: On that, Dr. Link, I think your last figures were that there was a possible crude area of 17,187 acres?

A Yes.

Q Of which 3,623 acres were proven?

A Were proven and that 310 were proven dry.

Q Yes?

A Yes, and you might add a rider to that---

Q That makes a figure requiring consideration of about 13,000 acres?

A Yes.

Q Instead of 10,000?

A That is it exactly.

Q THE CHAIRMAN: I understand.

A And if we take that, that is taking it down to the 4,500 foot below sea-level, Now if we take it down only to 4,000 feet below sea-level we subtract 2,500 acres from that again.

because we really have not demonstrated it to 4,500 feet below sea-level yet, it is only demonstrated to 3850 feet below sea-level to date, that is the Home-Millarville.

Q Your figuring was on the 1700 contour and the 4500 contour?

A That is it, and if neither one, if we wish to accept Dr. Boatright's 2000 foot contour and not mine of 1700, we can subtract another 1500 acres from that.

Q But does that make very much difference having regard to the small estimate of crude which Dr. Boatright put in the gas-cap area?

A You mean the crude?

Q Yes.

Q No, that will not make much difference in there except it comes to this of where we are going to put these wells between the 1700 foot contour or the 2000 foot contour, as gas-wells or oil wells.

MR. FRAWLEY: Arising out of that we have a question which we would like to ask.

Q DR. BOATRIGHT: In connection, Dr. Link, with your testimony, I believe that your primary object, as you stated, was to give the geological picture?

A Yes.

Q Am I correct in that?

A Yes.

Q And that your estimate which was based on only four wells was primarily a "horse back" figure?

A I called them a first approximation.

Q In other words you only used four wells, and there was some doubt as to one or more of them being right on the gas oil contact, was that not correct?

A There was no doubt in my mind because the lowest, the highest one was 2100 feet below sea-level, that is Sterling 3.

Q But it did have a very high gas-oil ratio?

A Yes.

Q And they were more or less comparable to the wells which Major Lipsett mentioned this morning?

A There was, that one was 2100 feet below sea-level and B. & B. Royalties was 1980 feet below sea-level, but it had an excellent record insofar as crude oil is concerned, having produced almost 300,000 barrels to date. Then the next one was Turner Valley Royalites 2390 feet below sea-level and Westflank 2450 feet below sea-level.

Q At least two of those wells then being pretty close to the gas area.

A Yes, they are pretty close to the boundary.

Q You used only the four wells out of some sixty odd?

A Yes.

Q In arriving at your figure for reserves, in other words your evidence was primarily given with respect to the geology?

A Yes.

Q And was merely a first approximation as far as the oil reserves underlying that acreage was concerned?

A Yes. While I am on my feet if I might summarize again what I would like the Commission to understand is my evidence. My evidence amounts to this; on the basis of very intensive study of the limestone cuttings of the porous zone I arrived at the conclusion that any estimate with respect to the Turner Valley reserves based on the porosity method is absolutely worthless and as a first approximation of what might happen I gave the decline curve or the four longest life wells in the actual oil area and from there on I recommended that an eingneer carry on and investigate thoroughly all the wells and give his estimate, which Mr. Davies did. Now that is really all I intended to convey

to this Commission.

Q THE CHAIRMAN: You did express some opinion as to the probable life of the field, which you have now explained?

A Yes.

Q With regard to the 13,000 acres which may or may not produce oil?

A Yes.

Q Is it to be thought that a geologist or engineer or one who is both, or two people concerned with their respective branches?

A Yes.

Q Cannot express an opinion with regard to the 13,000 acres, an intelligent opinion on it, as a professional man would give?

A I would prefer that a man older than myself, having seen actually other fields, possibly similar, would give his opinion rather than accept mine. I am only speaking of what I know of Turner Valley. I have read about others and there are graphs of others available showing the decline in them which if you wish can be submitted, but as far as my experience is concerned I have only dealt with one limestone field and I am very reluctant to make an estimate of these possible areas or this possible acreage, or that possible acreage.

Q MAJOR LIPSETT: Just on that point I would like to ask another question, it was put to you I think by Mr. Frawley on cross-examination from the report of the Tariff Board Inquiry?

A Yes.

Q That Mr. LeSueur apparently stated that their geologists figured it about 20,000 barrels to the acre, did you make any report for the purposes of that inquiry?

A I do not think I did. Now I would have to go through the

correpondence, what date was that?

Q I think that inquiry was in February last year, was it not?

MR. FRAWLEY: The 2nd of February of this year, the 2nd of February, 1938.

Q MAJOR LIPSETT: I am just pointing out to you a note which I have about what I think was put to you in cross-examination, you yourself said that you had previously figured on 15,000 barrels to the acre?

A That was the figure which I had in my mind.

Q That was not the original?

A No, that was just looking at the wells to see how they were behaving without graphing them because there was not a long enough life on them at that time.

Q The next thing that was put to you was that Mr. LeSueur said "our geologists figure" about 20,000 barrels per acre and that the proven reserves were about 40 or 46 or even 50,000,000 barrels for that area which was taken for around 2100 acres?

A Well let us see, if we were taking, at that time there was no 3600 acres, there had not been 3600 acres developed, let us say there were 2500 acres and if you take 2500 times 20 that gives us how many hundred thousand, how many million, that would be fifty million barrels at 20 thousand barrels an acre you see.

Q On the strength of that I think the statement was that the proven was 46---

A Yes.

Q Or fifty million barrels to that area?

A That would be on that basis, and I also made the statement, as you remember, that after Davies 2 had come in and Sterling 4, 5 and 6, and there were only a few months production figures available, I tried to make a graph and I

thought that Davies 2 would, at that time, at that rate, produce a million two hundred thousand barrels, dividing that by 40, that would be 30,000 barrels an acre, but I do not believe that today, on the record of the well. We have that yard stick now and I believe that the Commission, after considering all the evidence which will be given, will agree with me that the only yard stick which we have is the record of the wells in the crude oil area.

Q I remember that, Dr. Link, but I was just trying to find if one of the geologists Mr. LeSueur referred to was you and if you had made any report?

A If he did it was unknown to me because as I explained to you, I send my information to the Toronto office and there is another staff which takes these figures or this data and figures it out as they see fit and they may not agree with me.

Q So far as your recollection goes at the moment this report that he refers to was not yours?

A It might have been based on verbal conversation that I had with him about these wells, Davies 2 and Sterling 4, but I really do not know

Q Another thing that is stated, which was also put to you, Dr. Link, was that Mr. LeSueur said he had no reason to quarrel with Mr. Spratt's indicated reserves, which was 125,000,000 barrels?

A I think Mr. LeSueur said that because he, not being an engineer, he personally could not, he could not quarrel with it. I might add here while I am on my feet, again, that I have made estimates on the gas-cap ever since 1931 and my yard stick in 1931 consisted of one year and seven months decline of pressure, information of wells 18 to 25 wells. In 1932 I projected the possible decline at the pressure for Turner Valley, to 1948 and that graph today would indicate

that at the end of 1937 I expected 575 pounds average pressure for the gas-cap. Dr. Boatright gave a figure of 620 pounds. My estimate was therefore wrong by 7% and that was based on one year and seven month's information, of, in all the wells in the field. In 1934 I estimated the reserves for the Valley Gas and my figure at that time gave it 1,400,000,000 of naphtha. And that checks very closely with Dr. Boatrights also, so that was the yard stick which we had at that time, and I used it and it has turned out fairly well.

Q MR. FRAWLEY: So there may be no misunderstanding on this question of what I put to Dr. Link last month, arising out of what Major Lipsett stated, might I be permitted to read what Mr. LeSueur said, he had been dealing with the indicated reserves after he had dealt with the proven areas. He then passed on and said this:

> "As to indicated reserves I think Mr. Spratt put the total at 125,000,000 barrels. That may be quite accurate. Practically the only difference between Mr. Spratt and our geologists naturally depends upon how much of the West flank is productive and the feeling of our geologists is that Dalhousie 8 and Brown 3, more or less indicate that there are dry spots and our experience in the gas zone has indicated barren spots. Now the number and the size nobody can tell until the drill proves them. But on the other hand there are no doubt extensions to the South and West at the South and we see no reason to quarrel with Mr. Spratt's indicated reserves."

So that I put it to him that was what Mr. LeSueur the Vice-president of his company said about one year ago?

A Yes.

Q Acting on the advice of his geologists?

A Yes.

Q And you are the chief geologist for this area?

A I am the geologist in charge, I am really not chief geologist.

MR. FRAWLEY: All right.

MR. NOLAN: Mr. Chairman, before we leave this question, may I go back four lines before Mr. Frawley and read what Mr. LeSueur said at the beginning of the paragraph?

THE CHAIRMAN: What page are you reading from?

MR. NOLAN: I am not reading from the record, I am sorry, sir.

MR. FRAWLEY: I was reading from page 324 of the record. I read it all last month and I will certainly read it all again now. I will read everything. I will start at the beginning, it is only another paragraph.

> "Mr. LeSueur: Mr. Chairman, I believe that any remarks I may make will possibly prove rather prosaic compared to the interesting remarks of Dr. Hume, Mr. Spratt and Mr. Shaw yesterday. I feel and our technical men feel that Dr. Hume's stand and his remarks formed a very admiral and accurate background for Mr. Spratt's remarks and we also feel that Mr. Spratt's statement which was very carefully studied was fairly conservative. Mr. Spratt has predicated his remarks on the statement that a reliable estimate of the oil reserves of the Turner Valley field is impossible at this time. Of course we all agree with that. At the present time we cannot make any very accurate estimate of the ultimate recoverable reserve. Mr. Spratt also said there were about 2000 acres of proven area and that is more or less what our geologists

agree upon too. They figure about that. I do not think Mr. Spratt gave any estimate of the recoverable reserves for the proven area but if I recollect aright Mr. Shaw said perhaps 23000 barrels per acres. Our geologists figure more or less the same. They figure about 20,000 barrels to the acre as an estimate, and that would give proven reserves of possibly 40 to 46 or 50,000,000 barrels for that area."

And then he goes on as to the indicated reserves. That, Mr. Chairman, is page 325 of the transcript of the Tariff Board Hearing on Wednesday, the 2nd of February, 1938.

WITNESS: My lord, if I, I really believe that that, after reading all of that statement, you can understand again that we were then estimating this field on the basis of very, very little information. We have a great deal more now and our basis now, our estimates now are based upon a great deal more information. Now what a person believes at a certain time of his life and found out later to be wrong should not be charged against him.

Q THE CHAIRMAN: Oh no.

A I believed in Saunta Claus when I was 7 years old and I have quit it, but that is not to be held against me, is it?

Q Dr. Link, I did not understand you to dispute that, you say you simply do not care to express an opinion?

A That is it.

Q You have not the data upon which to found it?

A Yes.

Q Or the experience upon which to give it.

A That is it exactly.

Q DR. BOMTRIGHT: Incidentally you are interested in the pipe line too, now, that you were not interested in at that time?

A Yes.

Dr. Link.

Q And speaking about this gas estimate of one trillion, four hundred million cubic feet, which you stated you made, it checks fairly closely with the claim thqt I made during this hearing?

A Yes.

Q That represents the bottom space, the space that is occupied by that gas?

A No.

Q Why doesn't it?

A It does for the gas-cap area, but, as you remember, you estimated by the pressure-drop method on the gas-cap area, and to figure up what made up the pore space in the gas-cap area, and that brought it down to such a ridiculous figure that you did not apply it to the oil area.

Q It would not necessarily be ridiculous. The term "ridiculous" refers to personal knowledge?

A I do not wish to be taken in any way that my remarks are personal. I did not mean it that way, my opinion.

Q Personal opinion?

A Personal opinion.

Q Now, concerning porosity, I would like to go over that a little bit. I believe in your previous testimony that you had observed a number of cores, but that you had not made any statistical studies of the results, and that most of the work had been done by men under you?

A Yes.

Q As in my case?

A Yes.

Q And only one core had been taken in that field?

A Yes.

Q Then your estimate was not based on a great deal of background

of information, was it?

A Well, it was based upon the information that was available.

Q And, as you stated, there was 78 feet of core taken from Spy Hill No. 1?

A Yes.

Q And in this 78 feet, 8 samples were taken on the porosity, and it averaged 9.3?

A 9.3, yes.

Q And the non-void space, of how much, approximately 7½?

A Well, it comes to about 8 something.

Q Yes.

A But that 78 feet was taken from the lower zone.

Q And the porosity in the lower zone is larger?

A In one case it was just the reverse. Extension had a very good porous zone in the upper and a very poor lower porous zone.

Q And that 5% we used as an average figure?

A We know that with 5% average porosity it would not produce a well.

Q But I used it rather in a qualitative rather than a quantitative way?

A You used it in a quantitative way.

MR. FENERTY: I am calling Mr. Shaw, and in doing so I would like to make a preliminary statement. I am asked to advise the Commission that Mr. Shaw suffers from some considerable disability by reason of lack of hearing. Mr. Shaw was invited to come here for the purpose of preparing a private report for the Anglo-Canadian Company, without any thought at that time of giving evidence before the Commission, this is before this situation arose. He has prepared that report and he is prepared to give evidence on the stand, and

he will confine himself largely, as far as the direct evidence is concerned, to the reading of the report, and then we will file it. He has obtained permission to read that and make it available as evidence. He will put this report in. I am mentioning this matter at this time because it is only with considerable reluctance that Mr. Shaw will give evidence, because of his great difficulty in dealing with cross-examination, and it is for that reason that his evidence will be confined strictly to the reading of the report. I do not know how exactly we are going to deal with cross-examination, but in view of the fact that I appeared before the Commission and made the statement that we were producing two witnesses to give evidence, we felt under the circumstances we should call Mr. Shaw, and he has come here to give evidence, notwithstanding the obvious difficulty in dealing with the cross-examination;

THE CHAIRMAN: In cross-examination we will have to do the best we can.

....

SILAS FREDERICK SHAW, having been duly sworn, examined by Mr. Frawley, testified as follows:

Q Mr. Shaw, where do you live?

A In San Antonio, Texas.

Q What is your profession?

A Petroleum Engineer.

Q And will you put on the record your qualifications as a Petroleum Engineer?

A Yes, sir.

Q What academic training have you had, and what work have you done since you graduated?

A I was graduated from Columbia University as a Mining Engineer. I was engaged in that profession for about twenty-three years. Since that time, for the past twelve years, I have been engaged in petroleum engineering.

Q And in making estimations of reserves and work of that character in general?

A Yes.

Q In what area?

A Mainly the mid-continent area. In Kansas, Oklahoma and Texas, and abroad in Columbia, Peru, Roumania and Poland.

Q MR. FENERTY: Mr. Shaw, Dr. Link a few minutes ago in his testimony indicated that he would prefer to leave the making of estimates to engineers, older engineers and geologists who had had experience in different fields in estimating reserves and observing the productions obtained. Have you had experience along those lines?

A Yes.

THE CHAIRMAN: Limestone.

Q MR. FENERTY: And inspection and estimating reserves in numerous fields throughout the United States?

A In several, yes, sir.

Q And have had an opportunity of ascertaining productions obtained following estimates you have made?

A Yes, sir.

THE CHAIRMAN: Dr. Link's expressed reluctance is associated with the lack of experience in limestone fields. What does this witness say about that?

Q MR. FENERTY: Had those fields you have had experience with included fields where major production was obtained from the limestone?

A All three of those States I mentioned, Kansas, Oklahoma and Texas.

Q Now, what opportunities have you had, Mr. Shaw, of making

examinations in this Turner Valley field?

A During the past year and nine or ten months I visited this field four different times, and spent a large portion of that time in the field in observing the actions of the wells; going over the data accumulated by other engineers and geologists

Q On this present occasion you have been here for some time?

A About three weeks.

Q And have you availed yourself of the opportunity of reading the evidence that has already been presented to the Commission ?

A Yes, I read all of it.

Q Have you obtained such further data as you thought necessary to assist you in coming to an opinion at this time, as to the field?

A Yes.

Q And my understanding is that you have prepared a report, several reports: one dealing with the recoverable reserves in the field, and the other dealing with the matter of re-pressuring?

A Yes, sir.

Q Made in the first instance for the Anglo-Canadian Company?

A Yes.

Q You have been instructed to make these reports available without qualification to the Commission?

A Yes, sir.

Q And you have them with you to-day?

A I have them at hand.

Q I am going to ask you to let us have your estimate, first dealing with the matter of recoverable reserves. I am going to suggest to the Commission, if it is satisfactory to the Commission, that Mr. Shaw would probably follow the practice, I see that one or more witnesses have adopted in his direct

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evidence of reading from his report and placing it on the record. We will be prepared to file these reports.

THE CHAIRMAN: Any objection to him making the report an Exhibit?

MR. FENERTY: No.

(Report on available reserves in Turner Valley is now marked Exhibit "45".)

" Estimate was made by the writer in February, 1938 as to the possible ultimate recovery in the Turner Valley field, amounting to 23,000 barrels per acre for an area of approximately 10,000 acres. This was based on the assumption that the porosity was 15%, thickness of saturated producing horizon was 100 feet, and recovery of 40% for an assumed area of 10,000 acres.

At that time there were no actual determinations of porosity, no cores had been taken in the field, and no close measurements of the thickness of saturated section were available. An approximation of the porosity had been calculated by Mr. J. Grant Spratt, based on the known measurements of gas recovered from the gas cap, also approximate pressures had been noted at the time of discovery of the gas cap, also at the time the estimate of recovery of gas was made.

Up to the present date, January 1, 1939, some 65 wells, more or less, have been completed in the oil zone in the south part of the field, and data on performance of these wells have been noted. One core, 78 feet in length was taken in the Spy Hill well, on which porosity determinations at eight different points were made, and average porosity of the section was determined at about 9%.

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This well so far, has been a poor producer. Actual determinations of porosity of any reliable nature covering any considerable portion of the field are, therefore, lacking. No satisfactory determinations of the thickness of the saturated portions of the producing horizon are as yet available. Estimates of recovery have been made, ranging from 25% to 50%, but no area in the oil zone has been exhausted to the point, where any definite estimate of recovery can be actually computed.

Approximations of reserves have been made based on withdrawals of oil, and noting the difference in pressures existing before and after the withdrawals were made. The uncertainty of such estimates is shown in the following tables:

Well	Initial Pressure, Lbs. per Sq. In.	Bbl. Oil Produced to Nov. 30, 1938	Shut-In Pressure, as of Nov. 30	Bbl. Produced per 100 lbs. Pressure Decline	Bbl. Recoverable oil based on decline to 100 lbs.	Pressure later than Nov. 30	Bbl. Oil per 100 lbs. pressure decline	Bbl. recoverable oil at 100 lbs.
Frontier	2,245	218,000	1,675	38,200	819,000	1,820	58,100	1,246,000
Prairie	2,225	300,000	1,590	47,200	1,003,000	1,805	71,400	1,517,000

The recovery in the Frontier well, based on the pressures noted as of Nov. 30th, would appear to be 819,000 bbl., or about 20,000 bbl. per acre, but by using a bottom-hole pressure obtained at a later date, the recovery would appear to be 31,000 bbl. per acre, or an

increase of 50% over that based on a bottom-hole pressure taken at an earlier date. Similarly, in the Prairie well, the ultimate recovery would appear to be 25,000 bbl. per acre, when using bottom-hole pressure as of Nov. 30th, and a recovery of 38,000 bbl. per acre would appear possible by using a later bottom-hole pressure determination. It should be said, however, that another element of uncertainty is found in the figure for initial pressure in that we cannot be sure that it was taken after a shut down period long enough for a pressure-equilibrium condition to have become established in the reservoir in the general vicinity of the well. These figures illustrate the uncertainty of depending on this method as being correct. The results are dependent on the observations being accurate, even if the method is correct.

Another method sometimes used is that of noting withdrawals of oil and gas, together with decline in bottom-hole pressure over the period of time of the withdrawals, and computing future withdrawals on combined oil and gas on the basis of the remaining bottom-hole pressure. This method is open to uncertainties, as indicated in the following examples during the period, July-October, 1938, 61,305 bbl. of oil and 94,728,000 cu. ft. of gas were withdrawn, which indicated a gas-oil ratio of 1,545 cu. ft. of gas per barrel of oil. Figures for content of dissolved gas per barrel of oil per pound pressure drop was determined by Mr. Eugene Denton as 0.56 cu. ft., which would indicate that the dissolved gas in the Coronation well at 2,510 lbs. was 1,486 cu. ft. per barrel, instead of 1,545 cu. ft. It is probable that the figure of 0.56 cu. ft. per pound pressure drop is high inasmuch as there is a tendency for

entrained gas to pass from one separator to another when making such tests. This would seem to indicate that the relation between the oil and gas withdrawn from the reservoir during this period is not representative of the relation between the oil and gas as it exists in the reservoir.

Pursuing this example further; employing atmospheric pressure of 12.65 lbs per sq. in., bottom-hole pressure of 2,510 lbs., temperature of 150 deg. F. the gas produced during the period July-October would occupy a space underground of about 474,000 cu. ft. or 87,800 bbl., thus resulting in a factor of 2.45 bbl. as the space occupied in the reservoir by the oil and gas for a barrel of oil as recovered and measured on the surface. However, under somewhat similar conditions it has been found that a barrel on the surface occupied a space under-ground of 1.5 bbl., consequently it can be seen that there is considerable divergence between computations and actual determinations.

We are lacking in the fundamental data necessary to approach any satisfactory estimates. Cores should be taken in a sufficient number of wells scattered through the field that would enable satisfactory averages for porosity and permeability to be made. Also bottom-hole samples of the fluid should be obtained, and more accurate determinations made of the relation between the quantity of oil and gas as they exist in the reservoir. More bottom-hole pressures should be taken over a sufficient period of time that would enable the engineer to ascertain the pressure in the reservoir surrounding the well after equilibrium has been established. Then we can with more certainty approach the problem of calculation of recoverable oil.

At the present time, my opinion, based on the appearance of the field, on the performance of wells, and generalized views of porosity, etc., but unsupported by any definite figures that would permit calculations to be made, is that ultimate recovery will probably range between 15,000 and 20,000 bbl. per acre. More definite knowledge obtained in the course of time may alter these limits.

The proven area lies between limits of perhaps 3,000 and 4,000 acres, thus allowing for a recoverable reserve of 45,000,000 to 80,000,000 bbl. of crude oil. The possible reserves cover an area of perhaps 8,000 to 10,000 acres, which, when and if definitely proven, would indicate a future recoverable reserve ranging from 120,000,000 to 200,000,000 bbl. of crude oil."

Q MR. FENERTY: And I may say you have also prepared a report and are now prepared to present it here and have it put in evidence as to the matter of the repressuring of the Turner Valley field?

A I have.

MR. FENERTY: I would tender that and he will read it.

MR. FRAWLEY: I do not know, unless there is some value to the problem we are engaged upon. I did not expect that there would be any report of that kind.

Q THE CHAIRMAN: What is this report? I am sorry, I did not get what you said.

MR. FENERTY: Dealing with the matter of repressuring which was dealt with by other witnesses, and this has some bearing on the recovery, and the possibility of any recovery. It goes directly to whether or not it will affect the quantities, at least it seems to us to be so. It was dealt with by other witnesses at some length.

MR. FRAWLEY: I am certainly in this position, that I have not seen it at all. Certainly, anything in general having to do with the production of this field is our problem.

MR. FENERTY: I may ask the witness whether this is relevant.

Q Mr. Shaw, does the question of whether the repressuring of the field would be effective have any bearing on the quantities ultimately recoverable from the field?

A Will it have a bearing, do you mean?

Q Yes. In other words, let me put it this way?

A Or what will be the bearing?

Q Let me put it this way. As I understand it, the question of whether or not repressuring be adopted is one of the factors which may determine the ultimate recovery from the field, is that correct?

A In many cases it affects that.

MR. FENERTY: I do not propose to go further than that.

THE CHAIRMAN: I see no objection to its introduction.

MR. FRAWLEY: I would want to have some idea what it was.

THE CHAIRMAN: Commission counsel should be told of the nature of the evidence the witness is going to give.

MR. FENERTY: I am sorry.

MR. FRAWLEY: I did not know at all. I do not know whether Dr. Boatright knew anything about it, and he is advising me.

MR. FENERTY: I thought both of these reports had been given to you.

THE CHAIRMAN: If you want to read this into the record, all right.

MR. FENERTY: Yes.

"Report as to repressuring is now
marked Exhibit "46".)

" The following comments refer to the practicability of returning gas to the gas cap in the Turner Valley field, and to the probable effects of such action.

During November, 1938, the production of the Anglo-Canadian group of wells was approximately 63,000 bbl. of crude oil and 220,000,000 cu. ft. of gas, thus making for a gas oil ratio of approximately 3,500 cu. ft. of gas per barrel of oil. There were days during this month when it was necessary to use practically all of this gas as fuel on the leases and for drilling operations.

The production of 63,000 bbl. for November, or 2,120 bbl. per day, compares with a production for the field of say 12,500 bbl. per day, and on this basis of production of oil and gas, the total amount of gas produced per day was about 44,000,000 cu. ft. If this gas were processed for natural gas extraction, the quantity of gas remaining would be less than 44,000,000 cu. ft. per day, also fuel for operating the compressors would still further reduce this quantity of gas to perhaps 35,000,000 cu. ft. per day, much of which would be consumed during the months for lease requirements and for drilling purposes. The quantity of gas required for municipal purposes varies from 20,000,000 to 60,000,000 cu. ft. per day depending on the season of the year.

It might be reasonable to assume that during the summer months, the production of oil will be 25,000 bbl. per day, and the gas-oil ratio will be 5,000 cu. ft. per barrel of oil, making a total production of gas about 125,000,000 cu. ft. per day of which perhaps 25,000,000

to 50,000,000 cu. ft. as a minimum would be required for fuel, drilling, municipal purposes etc., leaving possibly 75,000,000 cu. ft. of gas that could be returned to the gas cap. During the winter months it would appear as if the withdrawal of gas from the gas cap is inevitable.

During the period 1924-1937, the quantity of gas extracted from the gas cap totalled about 959,870,000 cu. ft. Original pressure in the gas cap was estimated at 2,173 lbs. and pressure at the end of 1937, I assume to average about 650 lbs., thus indicating a pressure drop of about 1473 lbs., or roughly, 650,000,000 cu. ft. per pound of pressure drop, not taking into account the supercompressibility of the gas.

Assuming that 75,000,000 cu. ft. of gas per day could be returned to the gas cap for one-half of the year, the total quantity of returnable gas per year would be about 13,500,000,000 cu. ft. and if the pressure were to equalize throughout the gas cap, this would increase the pressure in the gas cap at the rate of about 20 lbs. per year, assuming that no gas were withdrawn from the gas cap for fuel or other purposes.

Owing to the rather low degree of permeability of the porous zone close to the oil zone, it is believed that migration of oil and gas through the oil zone is very slow, and it seems probable that the effect of an increase in pressure of 20 lbs. would be negligible. The closing in of the gas cap would have a much greater effect in retarding pressure decline in the gas cap than the return of gas produced with the oil, nevertheless, it is believed that in view of the low permeability that the combined effect of closing the gas cap in, and the return of gas from oil wells, would serve little purpose in increasing ultimate

recovery of oil.

If the gas cap is closed in, it seems almost certain that oil wells close to the fringe of the gas cap will more rapidly be converted to gas wells, thus putting these wells out of commission as oil or gas producers. Compensation will be expected for such procedure, and it will be difficult to arrive at any basis for compensation, and it will be still more difficult to determine who has benefitted by the procedure and who will therefore do the compensating.

The cost of a plant, or plants, for returning gas to the gas cap will be high, and to handle about 75,000,000 cu. ft. per day to the pressure that will probably be required will probably amount to $1,500,000 unless existing facilities can be employed. Operating costs will amount to perhaps 1½¢ to 2¢ per thousand cu. ft., and on basis assumed would total $205,000 to $264,000 per year. This outlay seems all out of reason when any benefits at all to the oil zone are problematical.

The return of gas to the gas cap as a measure of storing gas until needed as fuel would have points of merit, but before the gas is actually required, the costs for carrying on the storage operation would be multiplied several times, and would probably reach the point where the cost to the consumer would be more than he would be willing to bear."

MR. FENERTY: That is all Mr. Shaw's direct evidence.

THE CHAIRMAN: Any questions, Mr. Nolan?

MR. NOLAN: No.

Q DR. BOATRIGHT: I have just a few questions I would like to ask Mr. Shaw. Mr. Shaw, in your testimony here you show some figures on page 2?

A May I get that, Dr. Boatright?

Q Sure. In these figures, Mr. Shaw, in your discussion of these figures, you made the following statement: "The recovery in the Frontier well, based on the pressures noted as of November 30th, would appear to be 819,000 bbl. or about 20,000 bbl. per acre, but by using a bottom hole pressure obtained at a later date, the recovery would appear to be 31,000 bbl. per acre." In other words, had either of these figures been used as a basis of calculation, their accuracy would probably have been about 70%, is that correct?

A Would you state the last part of your question again, please?

Q In other words, if either of these figures had been used as a basis for calculating the reserves, the accuracy would have been approximately in the neighbourhood of 70%, would it not?

A Well, perhaps so. I would say this, that I am not sure that the latest pressure given is the proper pressure. It might have been shorter than that. This is just my opinion.

Q The point I am really trying to make is that these estimates might reasonably be assumed to be approximately 70% correct?

A I suppose so, without getting down too close.

Q You have studied the wells' characteristics quite considerably, haven't you?

A I have.

Q And are thoroughly familiar with the characteristics in the Turner Valley field?

A So far as I can be.

Q What does your study indicate as to the reasonableness of these figures, so far as you have gone?

A I think they are quite reasonable, Dr. Boatright.

Q Referring to your calculations contained in the paragraph on the bottom of pgge 3 you make this statement: "thus resulting in a factor of 2.45 bbl. as the space occupied in the reservoir

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by the oil and gas for a barrel of oil as recovered and measured on the surface."?

A Yes.

Q That indicates then a recovery of approximately 30%, does it not?

A I do not think you could put it that way.

Q Put it another way then. What does that figure represent?

A That represents the space occupied by a barrel of oil underground as compared with the barrel of oil as measured in the gauge tanks on the surface.

Q And then you go on and say "However, under somewhat similar conditions it has been found that a barrel on the surface occupied a space under-ground of 1.5 bbl.,"?

A Yes.

Q Indicating then that there is quite a variation in those two figures?

A Yes.

Q You would not make any statement as to recovery?

A No.

Q In your opinion, or as far as you know, is there anything to indicate at the present time that the area between 2,000 and 4,000 feet contour line will not be fairly generally productive throughout the length and breadth of the Turner Valley field?

A There are two or three dry holes, I believe, that have been drilled.

Q But do those dry holes necessarily condemn any of that acreage to the west?

A I would say they do that area in which the holes have been drilled. And there may be others, therefore,

Q But it would not necessarily condemn the area to the west?

A Not the whole, no.

THE CHAIRMAN: You might pursue one thing, Dr. Boatright.

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You have expressed an opinion as to the life of this field, having regard to the present market requirements.

DR. BOATRIGHT: That is right.

THE CHAIRMAN: Let us pursue that in plain English with this witness, what life he has given the field according to the present market requirements.

Q DR. BOATRIGHT: On the basis of your estimates here as to the possible recoveries to be anticipated that seem reasonable in the light of present information, how long would you estimate the life of the field to be, assuming an annual demand of five and a half million barrels per year?

A You could take the maximum figure which I have used, which is possible. If allowed to use that, that is 200 millions and 80 millions of the maximum for the proven. That is 280 millions. It would be a question of dividing five and a half into 280 millions. It naturally would not be produced that way.

Q On the basis of the possible calculations, I would like to get a figure for the life of the field under your two estimates, do you mind doing that?

A That would seem to range from thirty years to fifty years.

DR. BOATRIGHT: Does that answer your question?

THE CHAIRMAN: Now, I want to know if, in the opinion of this witness, that is a fair estimate?

Q DR. BOATRIGHT: In your opinion, based upon information that we have, is that a reasonable estimate, or do these cover the reasonable probabilities?

A They do, except I have classed the one area as possible but not as proven. If that becomes proven, when and if it does, then these figures would cover that point. The thirty years

would seem, perhaps, to be the minimum at 5½ millions a year.

DR. BOATRIGHT: Does that get your point?

THE CHAIRMAN: Not yet. I want to know, he is here giving expert evidence, and I want to know if he is prepared to express an opinion as to the possible, or if he is not, as to the possible. He says if it is proven it will give so much. We all know that without being engineers. Has he any opinion as to the probability?

Q DR. BOATRIGHT: Did you catch that, Mr. Shaw?

A Would you repeat it, Dr. Boatright?

Q Are you prepared to express an opinion as to whether it is probable that the life of the field will range between those two limits which you gave? We know that if it is proven it will be so. What we want is your opinion as to whether or not it is probable that the life of the field will lie somewhere between thirty and fifty years, based upon the information you have available at the present time?

THE CHAIRMAN: And the present rate of withdrawal.

Q DR. BOATRIGHT: And the present rate of withdrawal?

A Yes, sir. I do not think, in my opinion, we ought to assume that is probable as yet.

Q Do you have any ideas as to what you think would be the probable figure?

A Well, if we take half of that area, speaking off my report, I think that was very probable.

Q Yes, a maximum?

A The proven area, as you say, that is proven. If the other 4,000, we will say 4,000 or 5,000 acres, that is very probable.

Q In other words then, you say at least half of the 8,000 acres will probably be productive?

A Yes.

Q On that basis, using your figures, will you calculate what that life works out to be?

A That would range from twenty years to thirty years, approximately.

Q And you feel that that is reasonable?

A Yes.

Q Reasonably probable for the Turner Valley field?

A Yes, sir.

DR. BOATRIGHT: I believe that answers what you have in mind?

Q Does that include both areas now?

A Yes.

Q Both proven and what you believe will be probably a productive area of the field?

A Yes.

THE CHAIRMAN: Thank you.

MR. FRAWLEY: Don't you think you should ascertain what leeway he allows, whether he is concerned with the return of capital or depreciation. After all, this is the pipeline.

Q. MR. FRAWLEY: Mr. Shaw, I take it now that you have given us your opinion that the life of the Turner Valley field will run from twenty to thirty years?

A On the basis as shown.

Q Now, we are concerned here, Mr. Shaw, with the proper rate to be allowed the Royalite Oil Company to carry the oil from this field to Calgary through the Royalite Oil Company's pipeline. Would you care to in any way qualify the figure of twenty to thirty, having in mind the return that this company must get on its investment in operating this pipeline system, would you care to give some latitude to the life of

the field, having in mind its use as a factor to this Commission in arriving at the proper rate to carry on?

A I did not consider that at all and I would not feel prepared to go into the matter of their rate, or the proper return on their investment.

Q Well, would it in any sense qualify the life you have given, the figure you have given as the life of the field, the fact that they have to get a return, some return on their investment?

A I do not feel prepared to answer that, Mr. Frawley.

THE CHAIRMAN: Anything more, Gentlemen. Thank you, that will do.

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Sta gy Gill.

MR. FRAWLEY: Then the other gentleman is Mr. Stanley Gill of Houston, Texas.

STANLEY GILL, having been duly sworn, examined by Mr. Frawley, said;

Q Mr. Gill, you live in Houston, Texas?

A Yes.

Q And by profession you are what?

A I am engaged in consulting practice of engineering, practically all petroleum engineering.

Q Will you put on the record your qualifications, Mr. Gill, Please?

A I graduated in engineering from the University of Washington at Seattle. I followed that training....

Q THE CHAIRMAN: When?

A In 1920. Followed that training by three years of graduate work at Columbia University where I graduated in 1923 with the professional degree of Chemical Engineer. My first work in the oil fields began in February 1924, at which time as an employee of the Mellon Institute of Industrial Research of Pittsburgh, I was assigned to work for the Gulf Production Company at Houston, Texas. I remained engaged with the Gulf Production Company steadily until the end of the year 1931. The first few years of that employment were as an Assigned Fellow of the American Institute of Industrial Research, and I was later at the time of organization of the Research Department of the Gulf Oil Corporation, directly employed by the Gulf. Since January 1st, 1932, I have been engaged in an independent consulting engineering practice, with offices in Houston, Texas. As I say, better than 90% of my practice has been petroleum engineering work.

Q TO MR. FENERTY: Mr. Gill, have you had occasion in the course of your professional employment to make estimates of reserves in various fields?

A I have been making estimates of reserves ever since about two months after I first went into the oil field, that is since early in 1924.

Q And have you had opportunities of checking the ultimate results in various fields with the estimates you have made?

A I have had a great many opportunities to check the performance of leases and fields, subsequent to the time that my estimates were made, to see to what extent and in what manner the performance of the property conformed to my estimate. I have no idea how many such cases I have been able to have for comparison,- it probably runs up between 100 and 200. I have found incidentally, that in approximately 98% my estimates are slightly exceeded by subsequent performance. In other words, I under-estimated anywhere from five to thirty percent. Sometimes worse than that.

Q My understanding is that you have to some extent been engaged in forming estimates for the purpose of arriving at a basis of investing capital in fields?

A Very largely, sir.

Q And those necessarily are conservative estimates?

A Well I am what is known as "a banker's appraiser," I think.

Q That covers it, I think, your methods of estimating, I take it, are necessarily the result of comparisons of performance with earlier estimates?

A Well my adherence to certain methods and my method of application are, of course, based on that past experience.

Q You have been here how long, Mr. Gill?

A About twelve days.

Q And you have read over all of the evidence which has been presented to the Commission to date?

A Yes, I have.

Q And the available geological reports?

A Yes.

Q And the Government records have been made available to you?

A Yes, they have.

Q And you have taken occasion to examine such records as you thought would assist you?

A I have, that is correct.

Q And you have also visited the field?

A Yes, I have made a couple of trips to the field.

Q And you have given consideration during this period to the question of the recoverable reserves in the Turner Valley field, and to the matter of re-pressuring of that field.

A Yes, I have.

Q I amgoing to ask you to proceed in your own way, to give your own conclusions, together with such facts as you think should be referred to as supporting those conclusions. I might say, Mr. Chairman, that, due to the shortness of time, Mr. Gill has not yet had an opportunity of reducing his notes to a complete report which we could file, but we will be very pleased, if it will be of some assistance to the Commission, to reduce those to writing and file them. I believe one other report was filed following the giving of the evidence.

THE CHAIRMAN: As long as Mr Gill is available to be examined or cross-examined on any report which you file.

MR. FENERTY: This is only if you wish. We are quite satisfied to proceed in this manner.

THE CHAIRMAN: We think it is desirable to file it, but subject to that condition that other Counsel may examine him on the report filed.

MR. FENERTY: Because there may be something in it which is not given verbally. I quite appreciate that.

THE CHAIRMAN: Yes.

Q MR. FENERTY: Proceed in your own way, Mr. Gill, to give us such information as you have as to the character of the field, the data which you have considered and the conclusions you have arrived at.

A In the first place, as relates to the geology and structural condition of the field, it is apparent both from published papers and from the evidence which has been presented here that there is absolutely no controversy as to the general structural character of the field, and the spendid work which has been done and which is exemplified by this peg model here, represents an opinion as to structural conditions, it is far better than anything that I could hope to form. I have, therefore, because of the limited time available to me, brushed over any attempt to consider the geology. I am not a geologist to begin with, and I have gone only to the extent of comparing certain data of sub-sea depths to the top of the lime with the contour maps which were available to me in order to convince myself that my own contour would be substantially identical with the contour which has been presented here.

Perhaps it might be well first then, in view of that fact to state in a general way my own classification of

the acreage in the field since that is a fundamental factor in the estimates. I have used as the lowest limit of the gas-cap area a minus 2000 foot sub-sea contour. I believe that the use of a contour one or two hundred feet higher would be justifable, but the use of the lower contour, minus 2000, leads to more conservative estimates of the oil reserves and represents, in my opinion, the safest estimation that can be made in that the use of any higher contour such as 1800 or 1900 contour would serve merely to increase the estimate of oil reserves. I classified the area contained within the field into four categories; first, proven gas acreage, which is acreage lying above the minus 2000 foot contour. This gas area is, this gas section, covers an area of approximately 10,000 acres. I consider that there is now sufficient data to support very adequately an opinion that any part of the structure lying between this minus 2000 foot contour and the minus 4500 foot contour is potentially productive of oil. That view is based on the Home-Millarville well, on the Anglo-Canadian Number 1 well, and on the Extension Number 1 well, all of which encountered the lime somewhere within close hitting distance of the 4000 foot contour, around minus 3800. Due to the fact that in those wells no water was encountered to the bottom of the lower porous zone, which is located approximately 450 feet into the lime, they show that no water exists down to a depth of at least 3800 plus 450, which would prove the structure water-free, at least at the positions of these wells, down to a minus 4250 contour. The additional data obtained from Okalta 6 justified the assumption that

the very probable area extends down to the 4500 foot contour, some 13,000 acres lying on structure between the minus 2000 and the minus 4500 foot contour. I consider that 5500 acres of this is definitely and positively proven for production by existing wells, and that the remainder, 7500 acres, is to be classified as "probable" oil producing territories.

In addition to this area, the most recent performance of the Okalta No. 6 well indicates that the water level is almost certainly below minus 5500. I have visited the well twice and my only personal observation, having any bearing on that point, is that I believe that it was Saturday, either Friday or Saturday I was at the well, it had been swabbed for a few hours that morning, the rig was shut down to splice a swabbing line, the head was being steamed so that we could not see the casing head, but the air on the derrick floor and around the rig was heavy with the odour of live gas, which is quite distinctive. I am informed that since that time some good, live crude oil has been swabbed from the hole. If the Okalta well, Okalta 6, makes any crude oil at all, any new crude or gas, it proves definitely that the level of the oil-water contact is below the minus 5500 foot contour. I believe that there is enough data now on Okalta 6, showing that the area lying between the minus 4500 foot contour, which was the lower limit of the area I have classified as "probable," and the minus 5500 foot contour, may be classified as "possible" oil land or possible productive of oil. That area, estimated very roughly, is in the neighbourhood of 6000 acres. I, therefore, include within the confines of the

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"possible" productive structure in the light of present information, a total of 29,000 acres, of which 10,000 acres is gas land, 5500 acres definitely proven oil land, 7500 "probable" productive of oil, and 6000 "possible" productive of oil.

In the selection of the method to be employed for estimating the reserves of recoverable gas and oil existing in this field, we are necessarily, as has been pointed out by others here, limited to the rather meagre data which are available. There are in general only two methods of estimating oil reserves, The methods which have been employed here fall within those classes, those methods, all methods of estimating oil reserves with which I am familiar fall within one or another or a combination of two categories. Those are the volumetric method of estimation, and a method of estimation based on decline.

The volumetric methods are those in which the estimate is made as to the volume of the total porosity underlying the field, as to the content of that porosity and as to the recoverability of that content. The basic factor is, of course, porosity. The second factor is, in the case of the estimation of an oil reserve, how much oil is contained within that porosity. Those voids have a certain volume. What part of those voids is occupied by oil and what part by other things. The normal procedure at the present time is to apply to the volume of voids correction-factors for the volume occupied by the gas, that is gas not dissolved in oil, for the volume occupied by water, a certain amount of which in a good many fields is retained within the interstices of the porous rock, and to apply a correction

for what is commonly referred to as shrinkage of the oil, that is a barrel of oil on the ground in the tank occupies in the reservoir a space of more than one barrel, for two reasons, first in the reservoir it contains dissolved in it some greater or lesser volume of gas and second the temperature within the reservoir is normally higher than the temperature after the oil is reduced to possession in the tank.; therefore applying those three factors, the free gas factors, the shrinkage factor and the factor for the space occupied by water or other useless material, to determine how much oil is contained within those voids. We then estimate on the basis of experience or of the good gas what percentage of that oil can be recovered from wells, and this establishes the recovery factor as the measure of our estimate of what can be produced. Now where data are available on comparable fields which have produced throughout their producing life or to such a point of depletion that the ultimate recovery can be definitely foreseen, all of these estimations can sometimes be short-circuited by saying "this field has so far produced so much", we can tell from all the information at hand it is exactly like that field, and that field recovered 100 or 400 or 700 barrels of oil from each acre-foot of porous rock, therefore, we can say that this field will recover a similar amount. Where that can be done it affords a reasonable basis of estimation. Unfortunately that cannot be done in the case of Turner Valley. The limitation on the application of volume-ability map to Turner Valley has been pointed out in the record on these Hearings and it ties down basically to just one thing, or perhaps two, first, there have been no coring in Turner Valley. The one core out of Spy Hill

is not representative, or we do not think it is representative because Spy Hill was a small well. Mr. Spratt in papers published by him points out that measurements were made of porosity of 5 or 6 chunks of rock that were thrown out of wells in different parts of the field and that those tests lead to average values of 15% for the porosity. That is not enough information. Dr. Boatright adopted what seems to me the only available method of estimating the porosity of the lime by direct examination. I have had available to me and have examined with great care the same data on which he based his estimates. I do not think that it is a sound method, although it is the best available. I feel that Dr. Boatright applied it so as to lead to a sound estimate. Perhaps that belief is grounded on the fact that my own estimate approached by other methods are very close to his, I do not know, but he did make a very fine study of it, but what limited examination of those cuttings I myself have made confirm me in the belief that I had, that the method of examination that was described to me,-Dr. Link mentioned the Extension No. 1 well, I examined those cuttings myself and was also present both when the well was brought in before acidization from the lower porous zone and when it was first brought in after acidization. As Dr. Link very definitely stated these cuttings from the upper porous zone showed a great deal of porosity. The cuttings from the lower zone showed so far as I could see no porosity at all. Well, the well was first tested, prior to the time I came up here, from the upper porous zone alone and made, if my recollection of the figures is correct, somewhore on the order of 200 barrels a day before acidization. Is that correct, Mr. Spratt?

MR. SPRATT: 240.

WITNESS: 240. It was then drilled on to the lower porous zone and was brought in and I saw it brought in that time. During the first hour it produced 70 barrels or at the rate of 1680 barrels per day and I believe that for the first ten hours the production was around 600 barrels, which is, oh, 1300 or 1400 barrels per day. In other words although the cuttings from the lower porous zone should no porosity under the microscope, that lower porous zone added more than 1000 barrels per day to the production of the well. Now the reason for that, in the absense of pores is not known. Experience in other limestone areas indicate that it may be either one of two things. It may be pores large enough so that the cuttings are merely chipped off from around the edges. I have seen a good many limestone pores with the pores of such size that they would not show up in the cuttings at all, or it may that there is a system of factures, which not only tie the porosity together but also contain considerable oil in themselves. As I say, I am not personally too highly impressed with the examination of cuttings as a means of estimating the porosity and I believe that the job which Dr. Boatright has done on it on the basis of examinations of cuttings made by he Department of Mines is as good a job as can be done with it, and will almost inevitably lead to very conservative estimates in that the porosity which really accounts, which probably accounts, for the large production of some of your wells does not show up in the cuttings at all.

THE CHAIRMAN: I think this would be a convenient place to stop.

(The investigation was here adjourned and resumed at 2 P.M.)

Stanley Gill.

2 P.M. Session.

Q MR. FENERTY: Would you continue, Mr. Gill, from where you left off at noon?

A Two other types of estimates of cuttings and porosities have been employed in estimates on the Turner Valley field.. One was not gone into at that thoroughly. Dr. Link presented some figures on porosities which, as I understood the record, were based partly on an examination of the cuttings in the laboratory and partly on his own very extensive observation of drilling operations in the field. Spratt and Taylor, in a paper on the Turner Valley field, used a method which was also in use by Dr. Boatright, as one of his what might be called auxiliary methods. This method involves a comparison of the quantity of gas that has been produced from the gas-cap with the decline of pressure in the gas-cap, from which the effective volume of voids for the gas-cap can be calculated. Spratt and Taylor arrived at a figure, an average figure of 126,000 barrels of voids per acre. Dr. Boatright, as I remember, arrived at 170,000. No, I am sorry, Yes, 170,000 barrels of voids per acre in the gas-cap, but without correction or temperature or other deviations from the laws of perfect gases and if you correct the averages and factors it comes very close to the estimate arrived at by Spratt and Taylor. This method is a very sound method for estimating reservoir voids, and I believe that the figures arrived at by Spratt and Taylor and by Dr. Boatright, and have considerable value. However, there were two objections to their methods for estimating of the reserves in the oil. These objections are first as pointed out by Dr. Link in his testimony, on the geology

- of the field, and it is to be expected that there will be much less fracturing of the lime down at depth in the oil area. In general, while I feel that the data that has been presented here, and estimates on porosities are of value, and while I feel particularly that Dr. Boatright has arrived at a safe and reasonable estimate, I do not believe that the porosity methods are as applicable for a field such as this as are certain other methods. A second general method for the estimation of reserves includes these methods which are based upon decline, either upon the decline of the rate of production or upon the decline of the pressure. Probably the soundest method that there is for the estimation of reserves is this based upon the decline of rate of production of wells, or of fields. In a sense that can be regarded as a classical basis of estimation, since it has been used for many years, and has been studied in more detail since the factors involved have been discussed at length in various bulletins of the United States Bureau of Mines and in numerous text-books, and in innumerable publications. The decline of production of oil wells has been found by experience covering many thousands of wells to confor. to reasonably definite methematical laws. A decline curve is not something at which a man can look and say "This well is going off awfully fast, and we are sure that it will only last another year or so." It is rather a method or law providing an adequate mathematical curve which can be extorpolated mathematically into future years, with a great deal of certainty. Such extrapolation of decline of curves where proper data are available, are unquestionably the best methods of predicting the future production

from oil wells, since they tie in to all of the factors which cause production and recovery. The second class of decline methods are the methods which are based on decline of pressure, decline of surface pressures and decline of reservoir pressures. As I stated before, a method based on decline of pressure in the gas-cap can be employed and has been employed to give an estimate of the total voids space of the gas-cap. Two other methods based on pressure decline have been presented in the records at this hearing. Dr. Boatright presented a secondary method of estimation, of computations based on decline of reservoir pressure in its relation to the total volume of displacement of fluids which have been withdrawn from the oil horizon at Turner Valley. The method employed by Mr. Davies was the decline of pressure as one of the two fundamental factors. I do not think at the present state of knowledge as to performance of pressures in the Turner Valley reservoir that such methods are any good at all. The estimates which were presented here earlier in your proceedings were based on pressures which existed in the wells at that time. Due to the fact that there had been very heavy withdrawals during the Summer months, the pressures during September and October were low. The reservoir was not in a stable condition. There was a low pressure area caused by that rapid withdrawal, around each well. Due to the extremely low permeability of the Turner Valley reservoir rock pressures equalize very slowly. As a result during the past several months when the rate of withdrawal has been reduced below that existing in the Summer, there has been a rather steady increase of bottom hole pressures on most of the wells. To illustrate the

effect of that increase in pressure I imposed on Dr. Boatright's kindness to the point of having him provide me with data on the 29 wells in the oil area, from which he derived his estimate. Dr. Boatright tabulated a list of 29 wells, and on which he had measurements of bottom hole pressures for various periods of time, within which periods of time 2,500,000 barrels of oil had been produced from those 29 wells, the aggregate total producing time having been 5,671 well days. During this period the average loss in bottom hole pressure for this group of wells had been 320 lbs. per square inch. From these figures, and from the gas production from the wells during the same period of time, Dr. Boatright calculated an average production in terms of total reservoir displacement, that is combined gas and oil of 80,600 barrels for each pound per square inch drop in bottom hole pressure. As I say, Dr. Boatright was so good as to supply me with a list of wells and the data on them. On 27 of these wells, 27 of the 29, there are measurements of bottom hole pressure more recent than those which Dr. Boatright used. On the average for those 27 wells the bottom hole pressure during that period has increased by 26 pounds per square inch. If we calculated this over a period which represents 1,228 well days, it would mean we were getting something for nothing, because we produced a lot of oil with an increasing pressure. I, therefore, took those figures and carried back to the first date of Dr. Boatright's estimate, Figuring on that basis from the first date of his estimates up to the most recent pressure measurements, the displacement has been 106,000 barrels per pound per square inch as compared to 80,600. Or estimates made on that basis in the light

part of the summer 1938, wells were operated to full capacity. This was probably untrue in a number of these cases, but will lead to a lower estimate than would be. reached had the wells been capable of producing at a higher rate. Unfortunately the time available to me here has been such that these curves are merely work sheets, and I believe that Mr. Fenerty wants me to supply copies of these and do you wish to introduce these into the record, or how do you want to do that, Mr. Fenerty?

MR. FENERTY: I thought possibly that they were of sufficient importance that the sheets might be marked and that engineering copies or draft copies might be made and filed, together with the additional copies that might be necessary. I might say at this stage, Mr. Chairman, that we find it will not be possible for Mr. Gill to incorporate his evidence in the form of a written report, in the time he has available in Calgary, but in view of the continuity of the evidence, we now feel that nothing much would be added to the evidence as presented in the transcript.

THE CHAIRMAN: You are offering what?

A They are the curves and work sheets which I used in arriving at this estimate. I presume it would be best to mark them individually as exhibits, so I can describe them.

Q Take the first one and describe it?

A Well I should say that the first would be a tabulation of production data on B. & B. Royalties No. 1 well, showing production by months, and a calculation of the accumulated production up to the end of each of these months. This sheet also shows the gas-oil ratios by months since the performance of this well was badly affected by the great increase in gas-oil ratio during the last month.

[illegible]

[illegible]

[illegible]

and was still increasing rapidly at the end of the 96th hour; and data on a test made last week or the week before last rather, on Anglo-Canadian No. 1, that being in the nature of what is known as a draw-down test, in which a bottom hole pressure bomb is put into the well after a long period of shut-down, and the well opened up and the rate of reduction of pressure measured. All of the data on the shut-downs show conclusively that none of the wells on which tests have been made come anywhere close to equalizing to reservoir conditions in 24 hours; for all of these reasons I have made my basic estimate by extrapolation of decline curves. Now the extrapolation of decline curves is no good under a pro-ration curtailment, since wells are restricted to a rate lower than the normal decline. However, we have data on a considerable number of wells which were operated at what we may assume to be a relatively unrestrained rate in the earlier stages of their life. The data are not wholly satisfactory but lead to a reasonable estimate. I have plotted up the decline curves on 13 wells, most of which produced for greater or lesser periods prior to September 1937, and have extrapolated those curves. In each case I have plotted the logarithmic decline curves, what are referred to as the rate accumulative curves, in which the rate of production at any particular time is plotted against the total production of oil that has been had up to that time and have extrapolated those curves, ignoring in most cases the point subsequent to September 1937, when the first curtailment went into effect, and in other cases where the data did not permit of extrapolation all the way from that early date, going on the assumption that during the later

[illegible]

of more recent information are 30% or 33% higher than Dr. Boatright's estimate. Similarly, if these new pressure figures were applied to Mr. Davies' basis of estimation, his estimate would be very materially increased. In addition, I do not think that any 24 hour pressure measurements are any good for the estimation of reserves in the Turner Valley field. The reason for this is that there are available, and they are getting to be more and more, figures on what happens when you shut these wells in. On the fact that the pressure build-up during the first 24 hours does not bring the well to reservoir pressure condition, and that it in some cases will take many many days for the wells proper to equalize to the reservoir pressure, and in all cases will take apparently a period considerably greater than 24 hours. The data are rather limited, but I have been able to get data on 7 wells. Some of that information is in the record of your hearing in the tabulations of bottom hole pressure supplied by Mr. Davies. Some is more recent data, and I have gathered the build-up of pressure on Coronation No. 1 during a 72 hour shut-down in August; data on Royalite No. 32 on a 48 hour shut-down during November; these data are not in the record of your hearing. Comparing wells which were included in the tabulation submitted by Mr. Davies, a shut-down of Royalite No. 34, 96 hours, during June 1938; a shut-down of the Commoil No. 2 for 72 hours during August 1938; shut-down of Royal Canadian No. 1 for, I believe, 7 days during February 1938; shut-down of Royalite No. 28 for 17 days during March, 1938. In addition I have data on a test from December 22nd to December 26th on Anglo-Canadian No. 1, in which the pressure built up about 550 lbs. from the 24th to the 96th hour,

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "47".

A The second is a logarithmic decline curve for the B. & B. Royalties Nol 1 well, in which the rate of production by months is plotted against the elapsed time in months on log log paper. The logarithmic co-ordinates in each direction. I may explain this. The plots on the log log paper are basic decline curves and that the normal decline curve when plotted in this way on this kind of paper falls in a straight line, conforming to the mathematical form of the decline curve.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "48".

A The next is a semi-logarithmic rate cumulative plotting of the decline of B. & B. royalties No. 1 well. This carries a straight line extrapolation marked "A" on the curve, which is more or less a pessimistic evaluation of the possibilities of the well, and ~~the~~ leads to an estimated ultimate recovery of 825,000 barrels of oil from the well.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "49".

A "50" is simply a plotting of the gas-oil ratios on this well, and is included to show the reason for certain irregularities in the last month.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "50".

Now "51". Decline of production is plotted to simple rectangle co-ordinates. That is the group of graphs introduced by Dr. Link of the decline on the wells were plotted to this type of co-ordinates. In the figure Exhihit "51" I have plotted the actual production in green and have shown in red the decline curve covering estimates of future production to show the relative form

of that curve and the way in which the calculated curve conforms to actual production.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "51".

A Now I may run through these quite rapidly, because they are similar in nature. Exhibit "52" is a sheet of calculations for Brown No. 1 and Brown No. 2, both of which were completed in September 1937. This sheet contains the production by months and the calculation of production accumulations to the end of each month.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "52".

A Exhibit "53" is a semi-logarithmic cumulative plot of the production from these two wells. Due to the fact that all of the production from these wells have been had under curtailment, it is not possible to extrapolate these figures for an estimation of the ultimate recovery.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "53".

A Exhibit "54" is a sheet with production data and calcalation of accumulated production for Davies No. 2.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "54".

A Exhibit "55" is a logarithmic plotting and extrapolation of the decline curve for this well.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "55".

A In Exhibit "56" this extrapolation is re-plotted in comparison with the records of actual production to rectangular co-ordinates.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "56".

A Exhibit "57" is a semi-logarithmic rate cumulative . graph for the production from Davies No. 2, and leads to an estimated ultimate recovery from this well of 1,150,000

barrels.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "57".

A Exhibit "58" is a sheet with production data and calculation of the accumulated production and of gas-oil ratios for Foundation No. 1.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "58".

A Exhibit "59" is a semi-logarithmic rate cumulative plotting of the production data on this well. Due to the effect of pro-ration curtailment it is very difficult to arrive at a reasonable extrapolation of this curve but it is obvious from the inspection of the curve that any rational method of extrapolation would lead to an estimated ultimate recovery of more than 1,000,000 barrels from the well.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "59".

A "60" is a sheet of production data and calculated accumulated production for Sterling Pacific No. 3.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "60"

A Exhibit "61" is a semi-logarithmic rate cumulative plotting of the decline data. Incidentally it is about the only one of these wells on which the effect of acid treatment seems to have been such as to lead to an increase of ultimate recovery. In the others there is no direct evidence of any increase in ultimate recovery as a result of acid treatment. On this well there is an indication of some increase. The extrapolation leads to an estimated ultimate recovery of 380,000 barrels from this well.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "61".

A "62" is a sheet of calculations for Sterling Pacific No. 4.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "62".

A "63" is a semi-logarithmic plotting of rates cumulative curve leading to an estimated ultimate recovery of 820,000 barrels from this well.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "63".

A "64" is a sheet showing production data and the calculations of accumulated production from Sterling Pacific No. 5.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "64".

A "65 is a semi-logarithmic plotting of a rates cumulative decline curve on this well leading to an estimated ultimate recovery of 800,000 barrels.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "65".

Q "66" is a sheet carrying production data and calculations of the accumulative production from Turner Valley No. 1.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "66".

A "67" is a logarithmic plot of the decline curve, months against barrels per month.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "67".

A "68" is a plot of rectangular co-ordinates of this extrapolated decline curve in comparison with the actual production of the well.

DOCUMENT IN QUESTION IS NOW
MARKED EXHIBIT "68".

A "69" is a semi-logarithmic plotting, rates of accumulative decline curve for Turner Valley No. 1, leading to an estimated ultimate recovery of 1,060,000 barrels of

oil.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "69".

A "70" is a sheet containing production data and calculation of accumulated production by months on Westflank No. 1 and Westflank No. 3.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "70".

A "71" is a semi-logarithmic rate of cumulative plotting of production data on these wells. Since practially all of the production from these wells has been had under pro-ration curtailment, extrapolation of the curves for an estimation of the ultimate recovery is not possible.

DOCUMENT IN QUESTIONIS NOW MARKED EXHIBIT "71".

A "72" is a sheet containing production data, and calculations of accumulated production by months for Monarch No. 1 and Westside No. 1.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "72".

A "73" is a semi-logarithmic rate accumlative plotting of decline curves for those two wells leading to an estimated ultimate total recovery of 680,000 barrels from Monarch No. 1, and of 800,000 barrels from Westside No. 1.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "73".

Those curves lead to estimates of ultimate recovery for nine wells. Although the choice of wells was rather rigorously limited by the fact those were about the only wells available, I believe that they are truly representative. I eliminated from consideration wells such as Model No. 1 and Advance 5A, which have had

Stanley Gill.

phenomenonally large production, and the extrapolation of data on these wells would lead to a tremendous estimate. These wells range from really good wells down to a couple of fairly poor wells. They do not go down to wells as poor as Westflank No. 1 which was used by Dr. Link, because all of its production has been under curtailment and no estimate can be drawn from it. To summarise these estimates of ultimate total recovery, I estimate for B. & B. Royalties No. 1 an ultimate recovery of 825,000 barrels. For Davies No. 2, 1,150,000 barrels. For Foundation No. 1 I have used 1,000,000 barrels, and actually estimate the recovery to be something greater. For Monarch No. 1 680,000 barrels. For Sterling Pacific No. 3, 380,000 barrels. For Sterling Pacific No. 4, 820,000 barrels. For Sterling Pacific No. 5 800,000 barrels. For Turner Valley No. 1, 1,060,000 barrels. For Westside No. 1 800,000 barrels. The average recovery estimated in this group of wells, the average ultimate recovery for each well is estimated to be 835,000 barrels, corresponding approximately to the estimated average recovery of something over 20,000 barrels per acre.

Q MR. COMMISSIONER LIPSETT: You mentioned Westside. You mean Westside or Westflank?

A Westside. It was not possible to make an estimate for either of the Westflank wells, which I used, because all of their production had been had under curtailment.

(Go to Page 1094.).

I have arrived at my estimate of reasonable anticipation of the ultimate total recovery of oil from the Turner Valley field by the use of this basic figure of 20,000 barrels of oil recovery per acre and of the acreage classification which I described earlier. As I say or as I said I consider 5500 acres of the Turner Valley structure to be proven for production of oil by existing wells. At 20,000 barrels per acre estimated ultimate recovery from those 5500 acres it would be 110,000,000 barrels of oil; an additional 7500 acres lying between the minus 2000 foot and the minus 4500 foot contour on the flank of the structure I class as "probable". As a matter of fact I consider that is extremely probable. The greater part of it I think should be classified as Semi-proven, if we want to get technical about the classification. That area 7500 acres represents a great stretch of the flank of the structure lying between the built-up section on the South and the Home-Millarville area on the North. It is true that there have been a couple of dry holes drilled along there. There always will be dry holes within the proven confines of lime fields. In the Yates field, which is the greatest lime field in the United States, in Pecos County, Texas, there are dry holes within the producing boundaries of the field and there are tremendous differences in potential between adjacent wells. Although I have not had opportunity to go into the details myself, it has been repeatedly stated in the record of your Hearings that there are great variations in productivities within the gas-cap, that there are substantially barren spots within the gas-cap. Now no one can put a pencil on any point on this area which I classified as "probable" and say "we can complete

an oil well at that spot" but no reasonable engineer or geologist would say that that area was not at least highly probable. Along the upper edge of that area there have been a few wells, such as Model No. 1, and Advance 5-A, which incidentally are located between two of the dry holes, Brown 3 and Dalhousie 8, which have produced great quantities of oil and as pointed out this morning have shown over a long period of years no measurable decline of productivity. Undoubtedly those wells have been drawing a considerable part of their production, perhaps most all of it from acreage down dip but that fact of itself is an excellent proof that there is plenty of oil down dip in this "probable" area.

In arriving at my estimates of anticipation of ultimate recoveries from the field I have given that acreage a weight of 70, of 50%, that is as to my 5500 acres of proven territory, I have considered that safely as proven. We will therefore, estimate its recovery at 20,000 barrels am acres. As to the 7500 acres of "probable" territory I have said "now this is not all drilled up and so just to be awfully safe we will say that only half of that will prove up as good as this Southern area and we will therefore give it only 50% of the weight, We will only allow it 10,000 barrels an acre". Then the total reserve underlying that area is estimated at 75,000,000 barrels. Now in addition to the proven area and the "possible" area I believe, largely from my own observations of Okalta 6, limited as they were, that the area lying between the minus 4500 and minus 5500 foot contours, is possible oil producing land. We do not know that water level is going to be the same all up and down that structure. We do know that it is probably below minus 4500 feet all the way since we have the Home-

Millarville well up to the North which carries us down nearly that far and we have good reason to believe that to the South in the position of the Okalta 6 well, the oil-water contact is at least as low as that position in the upper porous zone, corresponding to a minus 5700 feet contour on the top of the lime. Between the minus 4500 and the minus 5500 foot contour there is something over 6000 acres of territory which I have classified as "possible" and to which I have assigned a weight of 25%, in comparison to my estimates of proven reserves, that is instead of estimating it at 20,000 barrels per acre I have included it at a figure of 5,000 barrels per acre, or a total of 30,000,000 barrels. Those estimates then are 110,000,000 barrels for the proven part of the field, and 75,000,000 barrels for the "probable" area and 30,000,000 barrels for the possible area - a total of 215,000,000 barrels which I consider an extremely reasonable, minimum anticipation of total recovery of oil from the field. Now there have been some 8,000,000 barrels produced todate and I therefore subtract that and state as my very firm opinion that you may safely, conservatively and reasonably expect to recover not less than 200,000,000 barrels of oil from the oil zones in the Turner Valley field.

TO MR. FENERTY:

Q Have you any comments to make, Mr. Gill, as to the matter of re-pressuring dealt with this morning, have you gone into that feature?

A That was one of the matters which I was askod to consider, yes.

Q As briefly as you can will you give us your comment on that.

A My comments on that can be very brief., since my opinion on it is based primarily on the extremely low permeability of the reservoir formation. That low permeability is conclusively demonstrated in all parts of the field by pressure performance

of wells. I really consider that at the present stage of depletion of the field, variation of pressures in the gas-cap is going to have practically no effect upon recovery of oil from the wells down flank. The only wells which will be effected are those which are located right along the gas oil contact. If the pressure in the gas-cap declines greatly those wells may possibly pick up some oil from down dip. If pressure in the gas-cap is maintained or increased ,oil will tend to be driven back from those wells as pressures in the oil areas decrease on account of withdrawal of oil. I do not think that pressure maintenance or pressure restoration in the gas-cap will have any measurable effect one way or the other on total recovery of oil. Whether or not it is worth while as a means of conserving the fuel supply I do not know. That depends on the economics of that situation but from the standpoint of the oil field I am not sure that any benefit would be derived and there might conceivably be some loss of oil recovery should the gas force oil down dip, leaving behind it a good deal of oil retained in capillary passages.

MR. FENERTY: I think that covers all the direct evidence which we have to offer, Mr. Chairman.

MR. FRAWLEY: Will you give us about five minute's adjournment, Mr. Chairman.

THE CHAIRMAN: Very good.

(An adjournment of five minutes was here taken)

Q MR. FRAWLEY: Mr. Gill, I have just one question and Dr. Boatright has just a couple or so. You therefore have 200,000,000 barrels recoverable, from now on, allowing, making the deductions or a very rough deduction of 15,000,000 you give the field a life of something over 36 years?

A I believe so.

Q Yes?

A That is what it calculates to, that is at 5 and a half.

Q 5 and a half million withdrawal yearly?

A Yes, the equivalent life of that rate of withdrawal would be something over 36 years.

Q Now you know that we are engaged here in determining the life of the field so that the Commission may use it as a factor in arriving at a proper rate for carrying crude oil from the field to Calgary to the Royalite Pipe line, you know that is our inquiry?

A Yes.

Q You also said this morning you are what is known in your country as a "banker's appraiser"?

A That is because I guessed them low.

Q Now I want you to tell the Commission whether or not you are prepared to qualify in any way the estimate of something over 36 years, having in mind we are seeking to allow something to the Royalite Oil Company as a return on their investment in this pipe line?

A Mr. Frawley, pipe line accounting is rather out of my line but if I were estimating the dollar value on that reserve I would not knock anything off that estimated reserve.

Q You would not knock anything off it?

A No sir.

Q You desire then the Commission should take your life of 36 years just as it is?

A That is assuming the 5 and a half million.

Q Yes, always assuming that withdrawal?

A Yes.

Q THE CHAIRMAN: Assuming that withdrawal, would you feel it

safe to advise a banker to whom you would expect to give a reasonable estimate, if you said 36 years would you expect the banker to advance money on the strength of your estimate?

A Equivalent to 5 and a half million barrels per year, yes.

TO DR. BOATRIGHT:

A Mr. Gill, I think through an oversight you failed to bring out whether or not you had had any experience in lime fields, I wonder if I might ask you that question now?

A Yes, I have had a good deal of experience in lime fields, I believe all in Texas, in the Edwards lime field and in the Luling district, in the Panhandle area, and in the lime fields at West Texas.

Q And that experience has included practically all phases, evaluation, drilling, completion of wells, production, production problems and things relating thereto?

A I do not know any of them that were left out.

Q Mr. Gill, in view of your studies of the Turner Valley field and the relatively low permeability which exists there, I wonder if you would express an opinion as to what you would expect the life of the wells to be in view of that permeability?

A I think that can be stated rather definitely, that is in view of the low permeability, and in view of the wide spacing of wells, the wells in the Turner Valley field are going to have a very long producing life, that is they may show rather rapid decline in the first few years but then they are going to level off and produce over a long, long time. That is always true in areas of low permeability and more true in areas where wells are widely spaced.

Q Well that opinion was very definitely shown by these curves which you introduced?

A Oh very definitely, yes, any of these extrapolated decline curves.

Q Mr. Gill, what is your opinion of the effect of the rate of production upon the gas-oil ratio, is it not possible to vary the gas-oil ratio from a given well by varying the rate at which that well is producing?

A Oh over wide ranges.

Q And is it not also true that the bottom-hole pressures are a function of the rate of withdrawal both from the well involved and surrounding wells within the zones influence of that particular well?

A Yes that is true.

Q And would or would it not be your opinion that any method of obtaining or calculating reserves based upon figures of the type which we necessarily, or that we obtain from conditions in the Turner Valley field would be absolutely worthless?

A I think that is quite obvious.

DR. BOATRIGHT: I believe that is everything.

MR. NOLAN: I wonder, Mr. Chairman, if Mr. Alexander Deussen, who is assisting me and who is a gentleman from Texas, might be permitted to ask Mr. Gill one or two questions. It is our intention to have Mr. Deussen come to the assistance of the Commission with his evidence as to the estimated reserves so under those circumstances I feel there will be no objection to him asking one or two questions.

THE CHAIRMAN: All right, Mr. Deussen.

TO MR. DEUSSEN.

Q Mr. Gill, I would like to know in your opinion as to whether this is a gas filed or an oil field, whether you have an effective water-drive in the field?

A No, I do not believe there is an effective water-drive.

Q Then the oil is going to be taken out only by the energy of the gas in the gas-cap?

A The gas, well in the gas-cap or from anywhere else in the reserves, dissolved in the oil.

Q The gas is the only thing that is going to take the oil out, is that not right?

(To to Number 1102)

A Essentially that is true, yes.

Q Did you have estimates of what the life of the gas is going to be in the Turner Valley field?

A No, I didn't make those calculations. They are in the record and apparently fairly well agreed upon.

Q After the gas is all gone out of the gas cap and out of the oil, there will be no energy left in the field with which to expel the oil, is that correct?

A After all the energy is gone there will not be any.

Q So that we are going to have, with the gas production, gas reserves in that field to last over that period of thirty-six years at the present rate?

A Somewhere in the field, yes.

Q That is all on that point. The other thing is with regard to this probable area which you have referred to, you said that in order to be safe and conservative that if you were evaluating that on the basis of 10,000 barrels, I do not remember the number of acres?

A On an average of 7500 acres.

Q Now, that was just 50% of what you gave in the proven?

A Yes. I actually think it will be considerably better than I have taken, on the average.

Q Yes, that exact proportion is not arrived at mathematically?

A No.

Q It is just based on your best methods and experience?

A Just an expression of the probability.

Q It might have been 12,000 as well as 10,000?

A Yes.

Q Or vice versa?

A No, I do not think vice versa. It might be 12, 15 or 20, I do not think there is any reasonable probability ot if being

any less than 10,000.

Q If it was 10 to 12, it might be down to 9500?

A No, sir, I think that 10,000 is the minimum evaluation of that probability.

Q But it is not developed on a basis of any mathematical problem?

A No, it is just a matter of judgment and opinion.

MR. DEUSSON: That is all.

Q DR. BOATRIGHT: Mr. Gill, there was a point brought up there during Mr. Deusson's question. You know, of course, that the field has a considerable dip, amounting to something over a mile?

A Yes.

Q And the forces of gravity in a field of that dip will have some effect?

A That is a very important point, Mr. Boatright, and I am glad you raised that. If it were not for the extremely low permeability of that formation the wells down dip would produce at a very high rate due to that gravity head. Even with the low permeability, without the driving effect of gas, the down dip wells just above the water would produce over a very long period of time under gravity drainage from that great heighth of oil column above it.

Q And that heighth, if it is approximately 4800 feet, we will say, would represent a pressure in down dip of how many pounds

A Oh, a couple of thousand pounds per square inch.

Q In other words, it is a very considerable pressure?

A A very substantial pressure.

Q The effect of the permeability, as I understand it, would be to slow up that movement?

A That is right.

Q But, nevertheless, the movement would take place?

A It might or might not, allowing for an economical rate of production.

Q Going from that permeability, if the reservoir in the oil horizon is of such a nature so that that gravity will not have an appreciable effect, then regardless of what the gas-cap does, there is enough gas down, contained in the oil, so far as we know, to do the lifting of the oil, so that the oil part of the horizon is fairly safe, insofar as the gas-cap is concerned?

A Oh, yes, the quantity of gas primarily escaping with the oil is more than sufficient to accomplish that drive.

THE CHAIRMAN: Any other questions?

MR. FRAWLEY: That is all.

Q MAJOR LIPSETT: We got an expression of opinion, Mr. Gill, that the two-thirds of the total oil recoverable from the well, was produced in the first two years and that after that, during the remaining life of the well, we could only expect one-third of the total recovery; in other words, the 66-2/3% was recovered in the first two years?

A Yes.

Q And that you can estimate from that what the total recovery was to be in the one-third life, have you considered that at all or can you express any opinion on it?

A I have considered that in great detail in a number of fields. The principle is right but the numbers are wrong; that is, 66-2/3% for a field, or 66%, or 66-2/3% , for a field having a producing formation with low permeability is a completely inaccurate figure. That ties in to the mathematical nature of these decline curves which I have been discussing. 66% during the first two years, you might get a figure that high on some field of exceptionally high and tremendous

permeability, but in reservoirs of the general character of this reservoir I do not think it would be physically possible by any known method of production in this impermeable formation and with these wide spacings, to get out as much as 35% of the total oil the first two years. I think that that 66% figure is at least twice as high as is justified by the facts as to this field.

Q MR. DEUSSON: I would like to ask Mr. Gill, if you have any data on the Powell field, it is a sand field, of course?

A Yes.

Q As to what the production was during the first two years of its life?

A I cannot recall, Mr. Deussen, but it was very high;

Q 90% of the recovery came out within the first two years?

A That was a sand of an extremely high permeability, and the wells were operated very close together. I believe, Mr. Deussen, I do not recollect the second year, I believe the first year on Powell was about 40% and the second about 20% more, about 60% in the first two years.

Q In those fields which we have down in our country where we live, in our back yard, we had some limestone production there, didn't we, in the form of the spindletop and the Humble fields?

A Well, we have those Caprock fields.

Q Have you any idea what the production was in those fields when they were drilled densely and thrown to open flow?

A A very, very large recovery and very high rates of production. The only one where I recollect any of the earlier figures was Spindletop, which was a cavernous Caprock, where there were wells which produced over 100,000 barrels per day.

Q And the first two years of life of the Spindle Top, do you recall what percentage of production came out?

A Offhand I do not. That was one of the fields where there was excessively high production, due to that cavernous condition. I believe that the Cap Rock area, which is what you referred to, the Cap Rock, or super cap sand produced in excess of 40% during the first year, pretty close to 45%.

Q Correct?

A And probably during the second year; now, I am speaking completely by guess merely, it was over 20%, and that the field probably produced close to 70% during the first two years.

Q And during the remaining fifteen to twenty years of its life it has produced the remaining 40%?

A It has not finished producing it yet. But that was a very uncommon condition, Mr. Deusson.

Q I am just trying to bring this out to show....

A There was tremendous permeability.

Q I am trying to bring this out to show in fields that are unrestricted, where the methods of production......

A The fields are not comparable to the underground conditions here specified.

Q That may be true, but I am trying to bring out this point, in the fields we were used to before pro-ration, that it was a common thing to get out at least 60 to 75% during the first two or three years of its life.

A And so very few of them did it.

Q Now, take the Luling field, which was opened up without restriction. It only made about 30% in the first year and, perhaps, 12 or 15% in the second?

A It was drilled much more closely than this field, and the

formation was much more permeable, and a very effective water drive, which would tend to increase recovery.

Q DR. BOATRIGHT: Mr. Gill, this Humble field to whch Mr. Deusson referred, was a sand field, wasn't it?

A Yes, that produced from the woodbine sand.

Q And it is comparable in no way to a lime field?

A That was a sand field producing through extremely closely spaced wells, and very highly permeable sand, with a very active and efficient water drive. In other words, it is not comparable in any way.

Q Furthermore, it was rapidly drilled out, wasn't it?

A Yes.

Q Going to this Cap Rock field, what has been the common experience with regard to activity in the field. One problem is getting through the cap rock?

A It is a very difficult problem. We have to drill through the cap in practically every well and it is a terrific problem. That condition accounted for the tremendously rapid production.

Q While we are on the subject of recovery, what was the recovery in the Spindle Top field? Do you remember that? Would 150,000 barrels per acre be correct?

A I think it would be higher than that. I think my opinion would be about two hundred to two hundred and twenty-five thousand barrels per acre from the total producing area.

Q In other words, none of the fields of which Mr. Deusson spcke are comparable to Turner Valley?

A There are very few fields anywhere comparable to those fields down there.

Q DR. LINK: Do you regard the Panhandle Texas field comparable to this field?

A It is reasonably comparable as to formation characteristics.

Of course, that is an enormous gas field with just a little fringe of oil along the edge of it.

Q You do not know anything about the average thickness of the porous zone there, do you?

A I do not remember those figures. I believe there is something like 50 feet, and 20% porosity.

Q 50 feet and 20% porosity?

A Something along that order.

Q Do you know what the reserve is for the Amarillo oil field?

A No, I do not remember it. I cannot pick out the figures on all of these individual fields. I have been very familiar with it from time to time.

Q The reason I am asking you is Dr. Boatright thought that field was more in line with Turner Valley?

A I think they figure it is a one billion oil field.

Q The estimates run from 600,000 to a billion. What is the acreage they ascribe to that field?

A I do not know the oil area.

Q One hundred and fifty to two hundred thousand acres. Now, let us have the lowest acreage ascribed to that field , 150,000 and divide that into a billion. What is your answer? 633 barrels per acre?

A Is that right?

Q Yes, sir.

Q DR. BOATRIGHT: While we are on this question of calculations, concerning the Border field, do you happen to have read the last oil weekly, or approximately the last one, wherein the productive area of the Border field was given as 100,000 acres?

A I was going to question that 150,000 or 200,000 acre figure. I do not believe that is right.

Q The figure of 50 feet thickness which you gave, was not that the total productive section comparable to the figure of 170 feet which I gave here?

A I believe it was, Dr. Boatright. The only figure I have in mind from a recent work covers the west Panhandle gas field, where there is only about 20 feet.

Q And with that 20%?

A It has been several years since I did anything down in that area.

Q That was 20 feet with 20% porosity?

A It is probably lower than 20 feet.

Q And if that 50 feet were comparable to the 170 feet, and if the volume were 6,000, which Mr. Link assumed, it would make my figure of 17,000 very reasonable, would it not?

A Yes, if you start making assumptions.

Q MR. MAHAFFY: Mr. Chairman, if I may ask a few questions. I came into the picture representing Gas & Oil Products at quite a late date, and there are one or two things Dr. Gill has said that I would like to question him about.

Q Mr. Gill, did I understand you in your original statement to say that in your opinion there is sufficient energy in the crude part of the field to raise that crude without assistance from the gas cap?

A No. There is sufficient to drive it to the hole, but it won't all flow naturally. It won't anyway.

Q In speaking to Mr. Deusson, he mentioned to you that when the gas has gone the energy to lift has gone. Were you referring there to the gas?

A In that connection, Mr. Mahaffy, may I say this, that when the gas has gone out of the oil saturated part of the Turner Valley

reservoir, quantities of produceable oil I have estimated will also have gone out through the hole.

Q And the gas you are speaking of is gas in the crude area?

A Directly associated with the crude.

Q In your opinion, will gas dissipation from the gas cap in any way affect the production of crude from the flank?

A Except only from the wells which are right up against the gas cap. I do not think it will have any effect on the others.

Q What effect will it show on the border wells?

A If the gas in the gas cap is dissipated and that pressure rapidly depleted it will pull the oil up-dip into these wells. Not from any great distance because of the low permeability but it will pull it up.

Q If the gas is not dissipated what will happen?

A Then as the pressures down in the crude oil area are reduced due to production of crude the gas will tend to expand and force the oil back down-dip and away from these large wells.

Q In other words, these that are crude wells may become entirely gas wells?

A Yes, sir, I think quite a few of them would. There is some sign of such a tendency. I do not recollect the wells.

Q Perhaps you recollect something of that kind has happened at the Model-Spooner Reward wells?

A Those may be the wells, I saw data on some wells where that had apparently taken place to some extent.

Q That is all, thank you.

MR. FRAWLEY: That is all Mr. Fenerty has to submit. I had supposed that would take up most of the day. It certainly has taken up most of the day, and that then as far as anything more.......

MR. NOLAN: My lord, I wanted to make available Mr. Deusson to the Commission. He has come up especially for

this purpose, but I thought that, perhaps, at this hour it would not be advantageous to begin with him, and that we should adjourn until to-morrow morning, because, like Mr. Frawley, I did not anticipate Mr. Shaw or Mr. Gill would finish as quickly as they have done. I thought the whole day would be taken up with Anglo-Canadian witnesses. We will be ready and prepared to go on the first thing to-morrow morning, if that meets with the convenience of the Commission.

MR. FRAWLEY: I am very glad to ask you to adjourn now.

THE CHAIRMAN: Very well.

(At this stage the Hearing was adjourned until the 10th day of January.)

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J. J. FRAWLEY

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IN THE MATTER OF THE PUBLIC
INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the
12th day of October, A.D. 1938, to inquire
into matters connected with Petroleum
and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta JANUARY 10th, 1939

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"75" - Graph prepared by Engineers of Royalite Oil Company, setting out their ideas of the decline curve used by Mr. Shaw in his evidence, (Exhibit "49"), and presented by the witness Mr. Deussen. . . . . 1128.

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January 10, 1938
10:30 A.M. Session

MR. FRAWLEY: Call Mr. Shaw, is he here?

THE CHAIRMAN: Mr. Frawley, we have been considering as to whether or not it would not serve all interested parties well, if at the conclusion of this phase of the evidence which you are now on, we should take time to consider and give a decision on this pipeline matter. It seemed to us that we should not come to any conclusion without getting the views of counsel and it occurred to us that perhaps you should see counsel interested, over and above those who are now present, lest they have something to say upon this subject, and speak to it at 2 o'clock.

MR. FRAWLEY: Very well, my Lord.

THE CHAIRMAN: I mention it now because if that course is pursued it is well that everyone who is interested in say the life of the field should come in and give their evidence now. Anyone who is interested in any way in any matter which will be affected by the decision on the pipeline rate should be given an opportunity to be here of course before that decision is given.

MR. FRAWLEY: Yes, my Lord, I will do that. I will now call Mr. Shaw.

SILAS F. SHAW, having been recalled, examined by Dr. Boatright said:

Q Mr. Shaw, you are the same Mr. Shaw who testified yesterday?

A Yes.

Q And are still under oath of course?

A Yes.

Q In your estimates yesterday you gave a figure of from 22 to 36 years as being the probable life of the field?

A Yes.

Q And I just want to ask you one question with regard to that life, that minimum figure of 22 to 36 years represents the figure upon which you would base a financial investment, is that not correct?

A That is correct.

Q In other words were a banker to contemplate putting money into the Turner Valley field you would recommend that it be placed upon the basis of from 22 to 36 years?

A That is correct, on the basis of 5 and a half million barrels withdrawal per year.

Q That is right, thank you.

THE CHAIRMAN: Any questions? That is all, thank you, Mr. Shaw.

ALEXANDER DEUSSEN, having been first duly sworn.

MR. FRAWLEY: Mr. Nolan has asked that he might qualify the witness and I have no objection.

Q MR. NOLAN: Mr. Deussen, what is your profession?

A I am an independent consulting geologist.

Q Where do you live?

A Houston, Texas.

Q Would you be good enough to give to the Commission something of your educational record, Mr. Deussen?

A My studies in geology and graduate work was done at the University of Texas and I graduated from the University of Texas in 1905.

Q With a degree in what?

A Master of Science, specializing in geology.

Q And after graduation what did you do?

A I taught in the University of Texas for some five or six years, in the Department of Geology.

Q Yes, and then?

A I then became connected with the United States geological survey. I was geologist on that survey and devoted my attention mainly to studies in Texas.

Q How long were you with the American geological survey?

A The United States geological survey, Mr. Nolan.

Q The United States geological survey?

A From approximately 1907 to 1915. In 1915 I resigned from the United States geological survey and accepted a position with the Gulf Production Company in Houston, which was an oil producing company, as geologist for that company in Houston. I was one of the very few geologists in Houston at that time. We have a great many now. I remained with the Gulf Company for a year and then resigned and opened an office in Houston, Texas, being one of the first consulting geologists in Houston. I engaged in independent consulting geology from about, from approximately 1916 to 1924 when I became Vice-President of the Marland Oil Company of Texas, Vice-President in charge of operations for that company in the Gulf Coast district of Texas and Louisiana, having under my supervision at that time the leasing and geological and geophysical and production activities of that company at the coast, from the period of 1924 to 1928.

Q Yes.

A I might add in that connection that under my supervision at that time there was brought to the coast for the first time a geophysical party, that started the large amount of geophysical activities that had been utilized in the coast since that time.

Q What is a geophysical activity?

A That is the exploration for sub-surface structures containing oil by means of the use of a seismograph which records an earth wave that is created by the explosion of a dynamite charge and that system is now extensively used in all parts of the United States and many foreign countries, in detecting the presence of these underground structures. I think there has been a geographical party in Turner Valley exploring this particular structure. In 1928 I left the Marland Oil Company and again re-opened my office as an independent consulting geologist and have been in that particular business ever since that time.

Q Are you a member of any geological society, Mr. Deussen?

A I am a member of quite a few. I have been a former president of the American Association of Petroleum Geologists. I am a member of the American Institute of Mining and Metallurgical Engineers, having been chairman of its oil and gas committee for one year. A member of the American Society of Economic Geologists. A Fellow of the Society of American Geologists, and mumerous others.

Q Yes. Mr. Deussen, have you had any experience in making estimates of oil reserves?

A During my career as a geologist I have had a great many, a good deal of contact with this particular problem. I was a member of the joint-committee of the United States Geological Survey and the American Association of Petroleum

geologists in, about 1918, to which was delegated the task at that time of making an estimate of the oil reserves of the United States, and I was chairman of the committee that prepared the estimate of the oil reserves of the Gulf Coast of Texas and Louisiana. I might state, Mr. Chairman, for your information that at the present time, and even then, at the Gulf Coast of Texas a considerable number of oil fields and a large proportion of the oil reserves of the United States are contained in that particular area, it is one of the prominent producing oil regions of the United States and, I am just drawing these figures from out of thin air only, the reserves are placed at something like 15 billion barrels, Texas I think around 5 billion and I think of that the Gulf Coast has about 2½ or 3 billion, so that ever since the oil industry in the United States has attained its present prominent position the Gulf Coast of Texas, from which all of us here come, has been one of the leading producing sections of the United States. As a matter of fact, the oil industry, as we know it in its modern phase, started with the discovery of the Spindletop field which is only 90 miles from Houston, back in 1901.

Q That committee of which you are a member functioned in 1918?

A That was about 1918 or 1919, I will be exact. In 1925 when the National Government became alarmed about the oil supply of the United States and the possibility of having adequate supplies of oil, President Coolidge appointed a committee to investigate the question of the oil reserves of the United States and the American Petroleum Institute, of which likewise I am a member and have been a former director, appointed a committee, a so-called committee of

eleven, to prepare an estimate of the reserves of the United States for the President's information and again I was a member of the committee that prepared the estimates for the Gulf Coast.

Q Yes, what is this American, or this Petroleum Institute?

A Well, it is a technical institute of oil operators in the United States, designed primarily to foster improvements in the art of finding and refining and marketing and recovering petroleum products.

Q I think some of their publications have been mentioned before this Commission, is that the A. P. I.?

A That is what they call the A. P. I. They put out a great many technical publications on all phases of the oil industry.

Q Do I understand you are a member or chairman of the committee that made that estimate?

A That committee was constituted, the so-called committee of elven, was constituted of eleven men and each of those eleven men being an executive, a main executive, president or viee-president of a major producing oil company of the United States. The actual work, however, was done by a number of sub-committees that were appointed in the various parts of the United States. I was a member and took an active part and prepared, helped to preparethe estimates for the Gulf Coast of Texas and Louisiana at that time.

Q As a member of the sub- committee working in that area?

A Yes.

Q And that was in the year---

A That was in about 1925 I think.

Q Yes?

A In 1935, about ten years later, this question again came up of what the oil reserves of the United States were and the

Deussen

American Petroleum Institute at that time again reconstituted another committee to supplement the former report as prepared in 1925 and again I was a member of that committee acting for the Gulf Coast, so that the three main estimates of the oil reserves of the United States that had been prepared since 1918, I have participated in each one of those studies.

Q And those were in the years 1918, 1925 and 1935?

A Yes.

Q Now Mr. Deussen, you have made some study and examination of the Turner Valley field and you have certain observations that you would like to bring to the attention of the Commission and I think perhaps you know that our witnesses are prepared to make their statements just in their own way and if you will be good enough now to bring to the attention of the Committee any observations which you have to make from the examination which you have made.

A I beg to state, Mr. Chairman, and Mr. Commissioner, that I was invited to come to Calgary about ten days ago, being advised of a Hearing which was in progress, which you gentlemen are conducting, and was asked at that time as an independent geologist to make a study of this field as best we could in the limited time available, in order that we might give to your Commission the benefit of our judgment as to what the reserves and life of this field might be based on such study of which we were capable in the time which was placed at our disposal. In this connection I might state that I brought with me Mr. T. V. Moore, a well-known petroleum engineer of Houston, in order to assist me in those studies. My particular engineer that usually worked with me in Houston was engaged in another task and I could not bring him with me so I had the services of Mr. Moore placed at my disposal. We have made, as carefully as we

can, this examination, we have been at it working night and day since this matter has been brought to our attention, reviewing the literature on this field and studying the records and the records of the production and the records of drilling and such other pertinent data as might be necessary in order that we might be able to form an opinion that we could give. I might say in this connection that all of the data of the Royalite Company has been placed at my, at our disposal, for these studies, and we find that this information has been very helpful to us in arriving at this opinion because without the assistance and without having this information at our command, I do not believe that we could have accomplished as much as I think we possibly have accomplished.

MR. FENERTY: I do not want to interrupt at the moment but as I understand the witness at the moment he is purporting to give what will be the opinions of himself and another geologist.

A No, my own opinion.

MR. FENERTY: I thought you were coupling the two of you, if this other gentleman is going on the stand of course that will be all right.

A I do not think he will go on the stand.

Q MR. FENERTY: Then I do not think he should give his opinion to this witness.

MR. NOLAN: No, that is not our intention. Mr. Deussen will confine his opinion to the opinion of himself and that only.

A With your permission, I will use the word "I" instead of "we" from now on.

MR. FENERTY: So long as it is your opinion, I thought you were quoting for both of you?

A No, this is my independent opinion. We likewise in this connection in order that we might be familiar with the ground, made a trip to Turner Valley on Saturday and looked over the field at that time.

Now to proceed with the matter which is immediately before me. I was interested in listening to the very illuminating discussion of Mr. Gill yesterday afternoon on the matter of the methods which are commonly employed by geologists and engineers in arriving at some estimates of the reserves, recoverable reserves of oil fields. I wish to impress on you, Mr. Chairman and Mr. Commissioner, that the figures that anyone gives on these matters are exactly what they are stated to be, they are estimates. They are not figures that have been arrived at by exact mathematical calculations. They are an expression of the best judgment and opinion based on the experience of the person who is making the estimate, as to what his ideas are as to the recoveries which might reasonably be expected from the field in the light of the information which he has on such a field. Mr. Gill I think covered in a very admirable way the two or three customary methods that are utilized in arriving at these figures of recoverable reserves. When he mentioned to you, first, the porosity or the so-called volometric method which has been employed by Dr. Boatright in arriving at his estimate of what those reserves are in the Turner Valley field. I think Mr. Gill stated that he did not personally believe that the porosity method was the most precise or the best method to use for this particular field inasmuch as it has been demonstrated

in this record that the reservoir which contains the oil is limestone and not sand and that these limestone reservoirs have certain peculiar characteristics which are not common with those of sand fields. Mr. Gill, I believe further stated that in his judgment the porosity method would not be the one that would be most satisfactory to use in connection with an estimation of these reserves in the Turner Valley field. With this opinion of Mr. Gill I am in thorough accord. I have serious doubt as to whether the porosity method or the volometric method for a limestone field or the Turner Valley field in particular is the best method or the most precise method by which these reserves can be arrived at. So far as I know, - I might be mistaken, - I do not believe that this so-called porosity method is commonly used. It may be used in some instances in the estimation of the reserves of a limestone field. Mr. Gill pointed out the other method and that was by the use of decline curves which, according to our experience, my experience, are the best methods to use when they can be used, and until pro-ration and restriction of production came into being in the United States the method of the decline curve was the one commonly used in the estimation of the reserves of an oil field, both limestone fields and sand fields. The introduction of pro-ration however has largely thrown the use of decline curves in the discard and I think I will try a little later to make plain to you, Mr. Chairman, and Mr. Commissioner, what a decline curve means. I do not know that we all of us fully understand it and I want to try and be in this discussion as non-technical as I can.

THE CHAIRMAN: That will be very helpful.

An oil well or an oil field has certain peculiar and definite characteristics that distinguishes it for example from an artesian well or a water well. In the first place, in such a structure as you have at Turner Valley, you have a limited area of the earth's crust that has been opened up, as you see in this very excellent model prepared by Dr. Boatright. That forms a place in which this oil has been accumulated. There is a certain amount of oil that is present in any particular oil field, and every barrel you take out of that field leaves just so many less barrels of oil to be recovered.

Q In the earlier handling of oil fields in the United States, the common practice was when an oil field was discovered to drill as many holes as you could and to produce as much as you could in order to get ahead of the other fellow, but when pro-ration came into effect the life of a field of course, was considerably prolonged. We have a field down near Houston which, under the present pro-ration methods, has an estimated life of 84 years. Any of us sitting here know that it will not last for 84 years. There will be sufficient demand for the reserves of the field that it will be used up much earlier. I am going into these things in order to get into the minds of you gentlemen what this decline curve means. Just as I have stated when you bring in a field, when you drill and get a certain number of barrels you let your well run wide open and get which is called flush production. We might leave that open for a day or a month. That production for each succeeding month drops at a certain rate. Then there

is one other conception about an oil field. There are two things which an engineer or a geologist believes and knows, that brings oil to the surface and that is that in most of these fields there is a water pressure at the lower end of this oil reservoir. That is as the oil is withdrawn it replaces the oil. That water itself is under pressure because it goes clear to the surface and there is a hydrostatic head on it as we call it. So that the pressure on the bottom end of this reservoir, as the oil is withdrawn that water jumps and it is in the case of most oil fields moving so that into that reservoir, the space occupied by each barrel of oil is taken up by this water. That is what we mean when we refer to what is called a water-drive in a field. I believe the record of the Turner Valley indicates that there is a very slight or no effective water-drive in the Turner Valley field. That is, the reservoir itself is not under pressure of a water column. So that leaves a force to expel the oil from the reservoir,gas. Generally these two forces, acting against each other, the gas from the top and the water from the bottom, force the oil up from the hole. You have only a limited amount of gas in the structures and for every cubic foot of gas that is removed from one of these reservoirs, it diminishes that pressure, active pressure. As the oil is extracted, the water pressure moves in to build up that pressure. But if you do not have any water pressure, as seems to be the case in Turner Valley, then the only force to expel the oil is this gas, as every foot of gas is removed and the pressure, at

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least the expelling force to expel the oil is reduced and for that reason there is generally less and less pressure on this oil in this reservoir, and for that reason it comes out less and less each day with the removal of each foot of gas, so that the production of that well is bound to decline. This principle was made use of in these decline curves, and what they are is just an actual plotting of the behaviour of the well; for a set period of time as you have a record of what you are capable of plotting, these curves where you do not have interference of proration, and you get an accurate record of the drop in the production of that well which permits you to forecast what the future production of that well is going to be. I am going to put in evidence here in just a moment an illustration from a diagram, one of those decline curves, such as was used by Mr. Gill and such as we have utilized in arriving at this estimate of these oil reserves. Now it is unfortunate about these oil fields in this engineering profession and geological profession that different people can put different interpretations on the same set of facts, so that there is a good deal of latitude when you do not have exact and accurate data as is usual, where you have the influences of acidization of these wells, as has occurred and the injection of pro-ration. In trying to construct a decline curve of that Turner Valley field, to know exactly how that curve ought to be extended, there is a latitude for discretion and interpretation by different persons in that regard. I think Mr. Link in his testimony, as the record shows,

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has introduced here a number of decline curves and has drawn from them certain conclusions, and the conclusions I believe finally came out in the use of this method indicate in his judgment a recovery that may be expected from this present producing area, and that is the only thing we know anything about in this oil field, as something like 7,000 barrels per acre. Mr. Gill yesterday, using some of the same wells, maybe not all the same wells, drew his conception of what the decline of that well was, and came out with a figure of something like 20,000 barrels per acre for this producing area. Mr. Link's figures indicated an exhaustion of that oil to an extent of something like 66%. Mr. Gill on the basis of using the same method in his interpretatioof the decline on some of those wells comes out with an exhaustion of 8%. So it looks like there was something wrong with this particular method. I just mention these facts to show you that all matters of estimates of these oil fields must be based on a long background of experience and history in which you know what these oil fields do under these certain conditions, and similar conditions, and that these judgments ought to be tempered with that background of experience. It is for the purpose of clarifying this record I want to introduce into evidence that decline curve of B. & B. well, which Mr. Gill used yesterday, and I would like to read from the record if I may, what Mr. Gill stated about that well. "Document in question is now marked Exhibit "48". A. The next is a semi-logarithmic

rate cumulative plotting of the decline of B. & B. Royalties No. 1 well. This carries a straight line extrapolation marked "A" on the curve, which is more or less a pessimistic evaluation of the possibilities of the well, and leads to an estimated ultimate recovery of 825,000 barrels of oil from the well." I do not know that it is plain to you gentlemen what all these words mean in this statement, and I will try to simplify it as much as I can. Mr. Gill used what he called semi-logarithmic paper and we have used the same data, and the same statements and plotted it on straight co-ordinate paper, and in each of these the notation of the divisions are the same. It happens that this particular well is likewise a well on which Mr. Link presented evidence as to its decline, and if I may show to you, Mr. Chairman and Mr. Commissioner, what these figures are, if you will be interested. This is the curve that Mr. Link introduced in evidence in regard to this particular well, and this goes here, this is the barrels of oil produced on this side, and this is the years in which that oil was produced. The total barrels of oil produced. He starts out here with this particular month, February 1937, that well produced 30,000 barrels of oil. The next month the production record shows it produced some 23,000 barrels. The next month it produced 20,000 barrels, and then each month it produced less. Now at this particular month which appears to be, according to this curve, something like July or August of 1937, according to the information I have on this well, this well was acidized and that recovery

of production of the particular well jumped from some 17,000 barrels to some 23,000 barrels. The next month it was down again to around 17,000 barrels, and it has dropped to this point and each one of these points represents that production for that particular month. What does a decline curve mean? It means trying to draw through these particular points a line of the production of that well and the actual drop during the period of which you have a record of this particular production. Mr. Gill uses the semi-logarithmic paper. We customarily use it because there is some latitude for discretion in the way in which you run out this curve. As a well gets older its production constantly gets less, but the rate at which it declines likewise becomes correspondingly less. So that in attemtping to draw the average line through the actual record of production that consists in averaging how that well declines and then you project it. From this period on, 1938, it is projected into the future and on into 1940, and in order to calculate each month the amount of oil that well might be expected to produce, you see there these projections. You take each month and on the basis of this there might be a production for each such month, and then by adding up the total of each month's production you get the total remaining oil that the well might be expected to produce on the basis of the curve. Do I make that plain, Mr. Chairman?

THE CHAIRMAN: Yes. Has this been made an exhibit?

A I think that is an exhibit, except this is a copy

and the red line I do not think was on Mr. Link's original exhibit.

PLAN OF DECLINE IN QUESTION IS NOW MARKED EXHIBIT "74".

A Now if you want to introduce this likewise into the evidence, Mr. Chairman?

Q Yes, if it is pertinent. What is this?

A This is the same, an attempt to express the same fact. The interpretation put on it by Mr. Link and the same assembly of facts are put on by Mr. Gill.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "75".

DR. BOATRIGHT: Might I interject a question here? This material which you say is Gill's projection, how did you obtain that?

A We used the record of this well that we have, and took his statement as contained in this record, and he makes a total of 825,000 barrels of oil as the total to come from this well, and projected that out on the chart and to show what points he was drawing this through.

Q In other words, that curve you represent as Gill's curve, is your estimate of what Gill used?

A That is our idea of what he used.

Q It is not necessarily what he gave you?

A It is not necessarily what he gave me.

MR. FRAWLEY: Mr. Gill did not file yesterday - they were only the working papers, and I do not think he showed the Commission one of his curves. He sent them out last night to be copied.

THE CHAIRMAN: This is all proper subsequent examination, but in the meantime the witness may go on.

A I am just introducing this into the evidence, Mr. Chairman

and Mr. Commissioner, in order to show that I have taken the same set of facts. We have here just the actual record of the production of this well. One man draws a curve in this manner, and another man draws a curve in a slightly different manner, and comes out with a different total as to the ultimate production of that well.

Q Yes?

A Mr. Link, on the basis of his curve, the way he tries to estimate the total production from this B. & B. well arrived at 350,000 barrels. Mr. Gill states on the basis of his curve - and of course as I say we are using our interpretation of what he said - he comes out with a total ultimate production of 825,000 barrals.

Q Yes?

A I will approach this matter from a slightly different standpoint, before I get on the matter of actually presenting my estimate. My understanding is that in September 1938 your Conservation Commission increased the allowable production of the Turner Valley Oil field by some considerable number of barrels.

Q THE CHAIRMAN: Just before you proceed with that, do I understand you to say that this decline curve, as the basis upon which Mr. Gill worked is of no value?

A No, I did not say that.

Q Because of pro-ration and because of present day pro-ration?

A I did not say that, Mr. Chairman. I say when you introduce factors of pro-ration, which comes in the later stage of this well, but not in the early stages,- you had several

[illegible]

and Mr. Commissio[illegible] I have taken the same set of facts. [illegible] the [illegible] of the production [illegible]. The [illegible] in this room, and [illegible] in [illegible] different [illegible] with a different [illegible] as to the [illegible] well.

Yes.

[illegible], on [illegible] to estimate the [illegible] approximately [illegible].

[illegible] production of [illegible] barrels.

[illegible] Commission on [illegible] the [illegible] production [illegible] of the [illegible] by some [illegible].

[illegible]: [illegible] you [illegible].

[illegible] I [illegible] that.

Because of production and pressure [illegible] [illegible] no-ration. [illegible] months of production and not affected by pro-ration.

Q Yes?

A When you get some distortion of this curve, you do not have all the actual facts of the rate at which this well will decline. So that introduces some element of doubt into the correctness or the exactness of these decline curves. You see the point here is.......

Q I understood you to say that with the advent of pro-ration in the United States that the decline curve method of estimation went into the discard?

A That is correct, yes sir.

Q Well if that be correct, it would be valueless then for those months in respect of which the curve is made after pro-ration was in force.

A Well to the extent.- I am just coming to that point. To the extent that the production is actually restricted by pro-ration orders. If your pro-ration permits production at a rate, either at the same rate or a rate in excess of what these wells are capable of making, if they are permitted to produce more than they can produce.

Q It would hardly be pro-ration?

A It would hardly be pro-ration, and it would likewise have no effect on the decline curves. I started to say, according to the information that has been placed at my disposal, your Conservation Commission in September of 1938 increased the allowable production to some 28,000 barrels - 28,300 barrels per day. The allowable figure, I believe, was changed several times during the month. But on the basis of that month's production of the wells, there were 52 wells producing in that month, and the total allowable production was 770,173 barrels. The

total actual production was 747,477 barrels. I am introducing this evidence for the purpose of showing that at that rate of production these wells were making all the oil of which they were capable of making. There were of all of those wells only three wells that were capable of making their allowable. The others were making less than their allowable. A further purpose in introducing this record is to give to this Commission a very good basis on which to form its opinion as to what the actual potential production of this field was in September 1938. Just to review just a little more history. In the days before pro-ration, we commonly spoke when a well was completed of its initial production, and that represented the number of barrels of oil per day that well produced the first day of its completion. In order to have more idea of what that well was capable of producing, we did not just allow it to produce for the one day, but we allowed it to flow for thirty days, and took the average of the thirty days, and see what that will show. It might be 5000 or 10,000 barrels well. It is naturally interesting to know always. The average through the first thirty days of its life was supposed to be whatever that figure indicated, and that is actually the very best method of knowing what the potential production of a well is. It is the only satisfactory method.to let that well flow wide open for a total of thirty days in order to see what it is capable of actually producing. We have had to get around that difficulty in the States because we cannot allow these wells to flow wide open for thirty days. They would produce

too luch oil and we do not have the storage facilities for it. So we attempt to find the next best method of finding the potentials in these wells. We let them flow for a few hours, or a day, and in addition to that we restrict the flow through a small opening, either a quarter of an inch or a half an inch choke, as it is called.

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I think that this record of production for 1938, we have a very fine record of what these wells are actually capable of producing in that particular month, and according to this record I find that these 52 wells, which represent all the producing wells in this proven area at that time, the production was 493 barrels per well per day, that was the permitted production fixed by the Conservation Commission, and they actually made on the average only 479 barrels. I believe all of those wells are not capable of making this amount of production, with the exception of three of them.

Now, one further thing, taking the past of an oil well and getting back again to decline curves, in our early experience in the use of these methods we had a great many curves that would show the characteristics of the production for any particular field, and you could take one of those curves and on the basis of the first thirty days' production, if you knew what the well would actually make in those thirty days, by the use of that curve you could estimate the total ultimate production. Some of the curves were so constructed you could do it on the first year's production, or even on the first month's production; Of course, those curves at that time, as I have always tried to stress to the Commission, they invariably show a decline of production.

Now, one further thought in this connection, on the basis of this 480 barrels a day, it is actually 479, and that is all the field has actually produced and is capable of producing each day in this month, they continue to produce at that rate and using Mr. Gill's estimate of the amount of oil which is present in this proven reservoir, which he says, I believe I quote him correctly, 100,000,000

barrels of oil. As I figure it, it would require at the present rate of production, I mean the rate for September, 1938, that these wells produced for eleven and two-tenth years at that rate in order to produce the amount of oil which Mr. Gill says is present, or in order to get out that oil. Now, I am very doubtful if that is going to be the case. I have tried to make plain to you, Gentlemen, that there is some latitude of discretion in regard to the interpretation that might be placed on these decline curves which we have attempted to draw. Mr. Link has attempted to draw, and Mr. Gill has drawn some, and for my own information, I have had the engineer that came up with me prepare for my use another decline curve. I think Mr. Link used only a certain group of wells. Mr. Gill used another group of wells. He discarded some and took in others, so I decided that we would take all the wells in that area and take an average well and see what that looked like, and when I got on to that I found on the basis of that curve, - which again you have a lot of personal elements involved in its interpretation, on the basis of the decline which that average well showed in this producing area, that the producing area has produced something like 50% of its ultimate production, so I have before me the task of putting some figures on what this proven area is going to do, and it is a little difficult to arrive at some decision with respect to this conflicting evidence, I believe, but in order to be safe and on the conservative side in this matter, I have not used Mr. Link's curves, nor have I used Mr. Gill's curve, because I believe Mr. Gill's curve gives too high an estimate, nor do I use the curve of the average well, that is 50%. Mr. Gill says 10%, Mr. Link says 60%. I do not

know what the correct figure is, but I want to give you, Gentlemen, the benefit of my judgment in regard to what this oil field is going to do, and I have just decided to use 20%. That is, I believe, from the basis of my experience and judgment, that these wells have produced up to the present time some 20% of their ultimate production, and that 80% remains to be produced. That may not be the correct figure but it is an expression of my best judgment and belief in the light of such facts as I have been able to find out, the trip to Turner Valley field, and on the basis of my experience in estimating oil reserves. In order to arrive at this figure on the recovery to be expected from this proven area I used the following data: 63 completed wells. We excluded 4 wells on the north in order not to confuse these figures; 63 wells which up to November 30th, 1938, have produced a total, according to the information that has been furnished me, of 7,474,578 barrels, and if you divide 63 into that figure you get what the production of the average well has been in that area, and that figure is 118,643 barrels, that is the average well in that area has produced that much oil.

Now, taking my guess, if I may use the word, just a plain guess, 20%, why, the total ultimate production of this average well, that is the future production or the total production that will come out of each one of these wells on the average, - now, I want to get clear to your Commission that one well may produce a million barrels, another well may only produce 50,000 barrels, there will be a great discrepancy in the amount of production that comes out of each one of these wells because there is this porosity and permeability, - but those are the average figures, those are

the average figures for each well, the good with the bad, and on the basis of this average well the total ultimate production of this average well is 593,215 barrels. I am accepting as the basis for the proven actual producing area in this field the record which has been made of it, and I am using Mr. Link's figures of 3,623 acres. I do not believe Mr. Gill uses the same figure, but I believe he counts in this producing and proven area some wells up on the north, which I have excluded because my idea in using this producing area was to get a yard-stick by which I might be able to judge what this vast, undrilled area might be capable of doing, and by this method of procedure I come out at a figure of 10,312 barrels per acre as the ultimate recovery of these 3,623 acres in this proven or producing area on the south, but that is only a small part of the solution of the problem which confronts one as to estimating these oil reserves of Turner Valley. We get, according to these figures of mine, 3,623 acres in the proven area, and we have 309 acres definitely condemned, and, as I figure it, 9,249 acres which is possible as Mr. Link calls it, "probable" which Mr. Gill calle it, but which we might consider to be potential productive acreage, and my considered judgment is that there is a very considerable portion of that acreage which is designated as "possible." by one authority and "probable" by anoter, will, as the years go by, prove to be productive of oil, and if this lower end is exhausted of production, then the production which you will get over those continuing years will in all likelihood come, considering it from my knowledge and experience in the behaviour of oil fields, will come from the extension of production to the north in this so-called "possible" or "probable" area. I think it is extremely likely, because this

is a limestone field, and we cannot tell in advance what the porosity conditions are going to be. There will be probably dry spots in it, as shown in this south end, there are wells of good productivity where the porosity is good and the permeability is good. There are wells which have wells adjacent to them that are small producers, and I think that is likely to be the case in the entire history of this field because what you have here proven actually by the drill in the south end will likely be demonstrated to be the characteristic for the north end.

Now, what the amount of oil that is actually to come out of these 9,000 acres, 9,249 acres, is again a matter of judgment or experience. There is no possible means by which anyone can tell, in the absence of wells in that area, as to what a particular part of it is going to produce or as to how much it is going to produce, and the nearest and best approach that I can make to an estimate of what that 9,000 acres shall, or is capable of producing, is to judge by what the production characteristics are of these south 3,000 acres, which we might use as the yard-stick upon which to base an intelligent judgment of what the remaining part of the field is going to produce. There, likewise, is a discrepancy in the opinions in regard to that area. I think Mr. Boatright uses 5,000 acres, on the basis of his 5% porosity calculation. Mr. Gill said 10,000. I am not going to quarrel with Mr. Gill. I am going to guess 10,000 too. Now, then, taking this possible area, which we or which I have submitted, 9,249 acres, 10,000 barrels to the acre, gives us 92,492,000 barrels. The remaining oil in the present producing area, according to my calculation,

using this 20% figure, 29,898,027. The total indicated remaining reserves in this field are, according to my best judgment, 122,388,027 barrels, which at the rate of your present production, 15,000 barrels a day, represents 22.3 years of life for this field at the present rate of production, and that, Mr. Chairman and Mr. Commissioner, concludes my testimony.

MR. NOLAN: Mr. Deussen, I was going to ask the witness if he wanted a break before the other questions were asked. If you, Mr. Chairman, are agreed?

THE CHAIRMAN: I think, perhaps, we should have a rest for five minutes.

WITNESS: I would appreciate it very much, Mr. Chairman.

(An adjournment of five minutes was here taken.)

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Q MR. NOLAN: Dr. Deussen, I wanted to direct your attention for a moment, if I may, to the amortization of the pipeline. On several occasions the Commission has expressed its interest in that aspect of it, and I wanted to know from you whether you are prepared or feel disposed to give us any assistance on that phase of the discussion. In other words the length of time during which this pipeline should be amortized.

MR. FRAWLEY: I only think the witness should state his experience along those lines.

MR. NOLAN: Well, my intention was that the witness should explain to the Commission what experience he had and then the Commission would weigh the evidence of the witness in the light of that experience.

THE CHAIRMAN: Yes.

A May I answer, Mr. Chairman?

Q Yes?

A I wish to state, Mr. Nolan, I have had no actual experience in the pipeline business, nor have I had occasion to engage in the valuation of pipelines, except in only one or two instances, and those were very small lines. So that I hardly feel as if I might be qualified to answer your question except that a considerable part of my present activity is in doing those things that Mr. Gill referred to yesterday, is making those bankers' appraisals. We appraise a good many oil properties on which these Banks in Houston, Texas, and some in Chicago make oil loans. I can only answer your question with that in mind.

Q MR. NOLAN: All right.

A That if a banker should come to me and say that we are proposing to enter into the Turner Valley field and build a pipeline, you have studied that field and have some idea as to what your judgment is as to the oil area and what its life might be, would you advise us to build a pipeline in that field, and if so, in what period of time do you expect we ought to get our money back? And just presenting it from that standpoint only, I do not say as a pipeline expert because I have not had any experience in the pipeline business. But this banker would put these questions to me, they put similar problems to me all the time. I believe I would state what study I had been able to make of that field, knowing the risks and hazards inevitably involved in the development of any oil field, and my judgment would be unless they could see a return of their money within a period of ten years, I would advise against it.

Q DR. BOATRIGHT: Mr. Deussen, I believe you mentioned something in your qualifications concerning geophysics and the fact geophysics had been used in this field. Are you familiar with that use of these geophysics in this field?

A No, I am not.

Q In other words, your estimate was not based on geophysics?

A No, absolutely not.

Q I believe during your testimony you stated that you had been on a number of committees which had made estimates

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

for quite a number of years?

A Yes.

Q Three estimates in all, I believe?

A Yes.

Q And took occasion during that discussion to state that the Hastings field, I believe, in Texas, had a projected life of 84 years at the present time, but that you did not anticipate that that life would be reached because of future demands?

A Yes.

Q In discussing reserves, what has been the history of those estimates that were made of the potential reserves in the United States during each of these periods you have mentioned?

A They have all been too low, successively too low.

Q In the light of that information, you cannot be sure that the present estimate might not be low?

A I cannot be sure.

Q And if that is true, it logically follows that maybe 84 years of life might be reached in the Hastings field.

A Well, Dr. Boatright, the only point I am trying to make with regard to Hastings - I just pulled that out of thin air - is a basis of the reserves estimated on the present rate of production, and assuming that you continue the present rate, it would take 84 years to exhaust that oil. That is the only point I am trying to make there.

Q But I mean no field estimate should be reduced, I am just taking this particular point out on the basis of estimates that have been made in the past, there is no reason for in any way reducing the reserve

figures on the basis of future production.

A No.

Q And in that event you would have no reason for, in Turner Valley specifically, any logical reason for depreciating the life of the field, because of the future, is that correct?

A No, I do not think so. I think you are absolutely correct.

THE CHAIRMAN: What I understood the witness' suggestion was, not that there would be an over-estimation of oil for 84 years, but that probably the demand would be such.......

A Yes sir.

Q ......that the production flow would be greater to meet the demand.

A There would be a greater draft on the field because of a greater demand.

Q That is to say those persons who are interested in getting their money out of the oil in the reservoir, would get it more quickly?

A That is correct, absolutely.

Q DR. BOATRIGHT: And then carrying on that same thought further, as far as the present history of estimates in the United States are concerned, there has been no reason from that standpoint alone of depreciating the field's life has there?

A No sir, not at all.

Q I just wished to clear up that point. When were you employed to appear here, Mr. Deussen?

A I think about some time around the 27th or the 28th of December.

Q And at what time did you receive the records of the Turner Valley field upon which you made a study in arriving at the estimate of the life of the Turner Valley field?

A I received them in Chicago some time about Thursday of last week. I do not remember whether it was Thursday.

Q Did your studies begin at that time?

A Yes sir.

Q Then in all you have had approximately five days, is that correct?

A That is correct, yes sir.

Q Including today?

A Including today, yes.

Q And what did those records consist of that you first received in Chicago on Thursday of last week?

A Well they consisted of the record of this testimony presented before this Commission. They consisted of a geological pamphlet by Mr. Link and others by Mr. Hulme of the Geological Survey of Canada, and several of those papers in which the geology of this field was described. That is my first attack on this problem was to familiarize myself with the geological conditions, and what the structural conditions might be. I also at that time had submitted to me the records of production of these wells, the bottom hole pressure and the gas-oil ratios, and what other pertinent data was needed at that time. That material was brought down to me from the Toronto office of the Imperial Oil Company. We had an opportunity to study that record of the transcript and this record of the data that was

placed in our hands upon arrival in Chicago, and on our trip up here.

Q Did the data which you received at that time include all the data which you used?

A No.

Q In your estimate?

A No.

Q How much additional information did you receive after arriving here on Staurday morning, I believe it was?

A Well I have received all the information that I utilized, or I had occasion to utilize since the time of our arrival, and that is that we had the opportunity to examine this structural map in detail and find out what acres were described as the producing area, and what was dry, and what was possible and probable. We had this record in Chicago, and as to what the gas production had been. We likewise had placed at our disposal these cuttings and samples from these wells that I had first an opportunity to look at upon arrival here. Likewise, the detailed production data and the other exhibits that were introduced into the record here during this Hearing.

Q In other words, since Saturday, you have received the majority of the well records upon which your estimate has been based?

A Yes sir.

Q And putting it in another way, then you have had since Saturday morning to prepare your estimate of the Turner Valley field?

A That is correct.

Q As I understand it you had had no experience in this area prior to this time?

A That is correct.

Q Were these decline curves entirely prepared by you?

A Which ones are you talking about?

Q Those that have been introduced here?

A No. I used Mr. Link's curve there, and the other one....

THE CHAIRMAN: That is Exhibit "74".

A That is merely a copy of Mr. Link's curves that was introduced into the record. The other one......

THE CHAIRMAN: Exhibit "75".

A That was prepared by the engineers in the Royalite office in conjunction with Mr. Moore.

Q In other words, Mr. Moore prepared that exhibit?

A He assisted in its preparation.

Q I also understand that, or I assume, if I am wrong correct me, that Mr. Moore assisted you in the preparation of all of the decline curves for these various wells upon which you base your estimate?

A He did not draw decline curves on all of the wells. We tried to get an average well.

Q Did he assist you in that work?

A Yes.

Q Then your opinion in part is based upon the work done by Mr. Moore in assisting you in the preparation of this case, is that correct?

A My estimate, Dr. Boatright, of the recovery, of this yardstick area, is not based on any decline curve. It is not based on Dr. Link's decline curve or Mr. Gill's

decline curve. Nor is it based on the decline curve that was prepared by these engineers in collaboration with Mr. Moore. It was based on my judgment, based on experience again, as to what I would think would be a reasonable estimate of the recovery during these two periods of the life of this field in view of the knowledge I had of how these fields behave when they have an opportunity of producing all they are capable of.

Q You did in arriving at that judgment use all of the available information on the Turner Valley field, didn't you?

A Yes sir.

Q And that included that which had been done by Mr. Moore?

A Yes sir.

Q And in other words then, a portion of your decision depends upon the work which had been done by Mr. Moore?

A I do not think so, no.

Q If you used all the information available and Mr. Moore assisted you?

A I told you I was using no decline curve on this.

I was basing my opinion as to the recovery per acre in this producing area on what I would normally expect its production to decline and from my experience I know how these limestone reservoirs that you have have yielded up oil in different portions of the country.

Q In arriving at your decision as to the reserves in the Turner Valley field, did you or did you not use the information, the engineering information developed during your study?

A Well I do not know that I quite grasp the significance

of that question. Of course we used the engineering information.

Q A portion of that engineering information was developed by Mr. Moore wasn't it?

A A portion of it was, yes.

Q Therefore, your judgment in part is based upon the work Mr. Moore did?

A I do not think so, because I had Mr. Moore making the gas cap calculations, the amount of gas that was in that gas cap, and how much gas remained and how much gas might be in solution in this oil. I had him making those calculations for me. I discarded all of them as not the proper method on which I would base my judgment. I want to make this statement, Dr. Boatright, that the matter of estimating of this oil field, and what it is going to do is largely a matter of geological instinct. You have a vast area here consisting of 9000 acres and all the engineering you may apply to this field, and all the mathematics you may apply to this field, cannot at this date tell you what portion of those 9000 acres is underlain by oil, nor how much oil there is there. The only approximations you can make of this thing is to judge as to what the probable recovery will be of this producing area, or of a similar producing area elsewhere, and then apply it as the yardstick to this untested area.

Q That instinct, I assume, was the thing that made it possible for you to make an estimate in five days?

A Yes.

(At this stage the Hearing was adjourned until 2 P.M.)

....

2:00 P. M. Session

MR. FRAWLEY: You expected me, Mr. Chairman, to speak to the matter which you mentioned this morning. Well I communicated with the only counsel who was not here and who has been with us last month, that was Mr. A. L. Smith, and Mr. Smith has come here now to make a statement to you.

MR. SMITH: Mr. Chairman, I am withdrawing. I represent the Alberta Producers Association. From now on I am withdrawing from the Hearing. The reason is comparatively simple. The matters are so diverse that it is impossible to follow them.

MR. FRAWLEY: Then speaking to the matter which you mentioned this morning, Mr. Harvey was here this morning but is not here now. He had to attend another meeting and said he would not be here. He did not say what his view was. Mr. Nolan is here and Mr. Fenerty and Mr. Mahaffy. Speaking for myself I think that your suggestion is a very good one. I regard the pipeline rate to be quite a separate matter from the rest of the inquiry and that it in that way would very readily be divided off and a judgment given in respect of that without in any way interfering with or embarrassing any of the further subjects of inquiry which we have to pursue after we have finished with the pipeline rate.

MR. NOLAN: For my part, Mr. Commissioner, it is very difficult at this moment to know whether the pipeline rate is something that is in no way connected with the rest of this inquiry. As you know, questions will arise and evidence will have to be adduced on such points as to the probability of the present market requirements continuing, on such matters as pertain to those things which are involved in perhaps what we might call, the economics of the situation,

and for my part I think the pipeline is so interwoven with the rest of this inquiry that it is going to be very difficult, if not impossible, to divide it up into compartments and to make findings as we go along, even although the evidence as we can see it now is all in on a particular point. I am not at all sure that evidence will not be adduced both by Counsel for the Commission and by other Counsel, later on, which might have a very direct bearing upon the pipeline and the rate that is charged for transportation. It is difficult at the moment to foresee what those may be and on the other hand I do not appreciate perhaps, the importance of bringing in an interim report or a finding in respect of one phase of the matter when it is all one big problem. What we have to do is to take the oil from the well, transport it, manufacture it and market it and when the whole field is being gone into, as the agenda for this Commission shows it is the intention so to do, for my part I do not think it is wise from the point of the Commission under their intention to explore all these different phases of this big subject, to draw a line at any particular moment and say "now we have finished with that", because it may so easily happen that we have not finished with it and other things may come fairly on in respect of other parts of this inquiry which may have a very direct bearing upon the rate to be charged. I was not quite clear from the remarks made by the Chairman this morning whether or not it was only the intention to fix a figure on the life of the field or to go further and fix the transportation pipeline rate at this stage but whichever it is I think it is something which might be left until there is more evidence and other evidence on the other phases of a problem which of its very character necessitates the

interlocking of one part with the other.

THE CHAIRMAN: You see, the fixing of a pipeline rate which has been committed to our care is something which ordinarily would be dealt with by the Utilities Board. It just so happens that it is not here. Why I know not, but we are charged with it and so far as I can see at this moment all of the matters to which you allude as having a bearing upon the pipeline rate should be gone into before there is any pipeline rate decision of course.

MR. NOLAN: It is so difficult for us to anticipate in an inquiry of this kind how far we have to go. When I began I had no conception of what this amounted to, this phase of the inqiry. Here we are at the 12 or 13th day of the sittings, people have come from very far afield to be of what assistance they can, it has become most involved and most difficult. Now there is no reason to suppose that the other phases of this inquiry will not present similar difficulty, perhaps they will not be as many, but there will be difficulties from time to time and my idea was, when the pipeline rate was removed from the jurisdiction for the moment at least of the Public Utility Board, that it was for the purpose of determining what part the pipeline rate played in the ultimate cost to the consumer of a gallon of gasoline, and that what we would have to do would be to go into all those stages, the production, transportation, manufacturing and marketing, and then in the end when all the evidence was in and the whole picture was before the Commission, it could then make up its mind, after seeing all the evidence and the whole picture, what the answer was to the various points which are placed before the Commission by the Government for its consideration but to say now "we have finished with it and find on this particular point", in

my submission leaves the Commission in a position which might become very difficult because I can foresee that perhaps other questions may arise, unknown to us now, which might in some way at least cause the Commission to wonder whether or not it had been wise to go ahead and divide this thing up into its component parts. I am not able to say now what they are nor is anybody else but when we get going in these matters, we seem to go pretty far afield and one thing leads to another and I am of the view that we might so easily find ourselves in the position of regretting that we have drawn a dead-line and in that way not have the whole picture before us, before we came to a consideration of any phase of the matter under inquiry.

MR. FENERTY: I quite appreciate, Mr. Chairman, that the Commission feels that there must be some finality to some parts of the inquiry but so far as we are concerned we have no representations to make. We are quite satisfied with any methods this Commission may adopt in connection with these matters, either to deal with them singly or collectively.

THE CHAIRMAN: There is no thought of dividing, or of deciding anything else, simply that this is a matter which, providing Counsel are able to lead all the evidence which they have that bears upon the pipeline rate, it seemed to us that might be conveniently disposed of. There is some thought that it might be of advantage to Counsel to know what the pipeline rate was, when entering upon a consideration of the refinery cost, for example, to know what it was, so far as we are concerned. Did that occur to you, Mr. Nolan, as being of any advantage or interest?

MR. NOLAN: No, it had not occurred to me but then

my position is by not knowing at this particular time just what is involved in the inquiry in respect of the other branches. We have been engaged continuously, all the time, on this particular phrase and it is very difficult to cast your mind forward to see what the ramifications are of the other matters which will come up. I think the Commissioners will agree with me that this, the pipeline, in how many years it should be amortized has produced much more, what shall I say, much more evidence than was ever anticipated when we began and that is my anxiety about the rest of it, and you might find that the different phases are in some way at least interwoven and interlocked.

THE CHAIRMAN: Mr. Mahaffy.

MR. MAHAFFY: Mr. Chairman, so far as the neat question of pipeline rates is concerned we really are not particularly interested in that phase of the inquiry. Consequently I am not able to give you, sir, the benefit of any remarks from me because as I say we are not particularly interested in that phase of it and it matters not to us whether it is divided, as suggested, or whether the decision on that point be withheld until the end of the whole case.

THE CHAIRMAN: Anyone else any submission to make upon this question.

MR. FRAWLEY: I would just like to say this, Mr. Chairman. I do not want to be taken as either pressing for the decision to be withheld or that it should be brought on at once. We have spent a good deal of time the Commissioners and Mr. Cottle and I, in Edmonton, determining the program and we have on page 2, under the heading (B) "The rate charged for the gathering, handling

and transporting crude petroleum by pipeline", now we have adduced and will adduce all the evidence which can reasonably be lead with regard to this matter and I would say to my friend that he will hot find any reference to pipeline rates in the balance of the inquiry at any place. I would think that the Commissioners themselves would desire to dispose of the matter if as they have, as you say, heard all the evidence which may reasonably be anticipated because if you do defer it, you will have to go back over this rather detailed and complicated evidence sometime a month or six weeks hence, and then do just precisely what I think you are in a position to do now, or will be as soon as we finish with the life of the field and the accounting. It is just a stage to be reached, you must find what the fair and equitable rate to date, or as of the 1st of January, 1939, should be, to carry a barrel of oil from TurnerValley to Calgary and you will have to do that either now or two months hence. If my friend can suggest any place, or if the many engineers and accountants and executive officers that he has at his disposal, can suggest any place where this might arise again, then of course I would say to leave it open, but I cannot see myself how it can, and the people I have consulted with tell me it does not in any sense bear on anything else. It is just the rate that the Public Utility Commissioner, as you say, may have handed to us. It might have been done that way. It was not done that way but you will have to do exactly that. I think it is quite separate and would be of great advantage to the Commission perhaps, and it would be my respectful submission that it would of great advantage to get it out of the way.

THE CHAIRMAN: Well we will reserve our decision as to what we will do in the matter. Suffice to say however, that we are now engaged in the pipeline inquiry and we give warning to everyone that any evidence that they have, which they think has any bearing upon this pipeline inquiry should be introduced now. All right, we will proceed with the witness.

DR. ALEXANDER DEUSSEN, having been recalled, examined by Dr. Boatright said:-

Q Mr. Deussen, in my questions concerning Mr. T. V. Moore this morning, I may have left a wrong impression and if so I want to correct it, you know Mr. T. V. Moore of course?

A Yes.

Q And may I ask what his position is?

A Well he is in charge of production and research of the Humble Oil and Refining Company of Texas.

Q And Mr. Moore enjoys a very fine reputation I believe?

A I think so, yes.

Q There was no attempt on my part this morning to detract from his reputation?

A I appreciate that.

Q I had an entirely different idea in my question. Coming to your statement concerning the number of fields which reach an appreciable portion of their ultimate production within the first year or two, is it not correct the majority of those fields upon which that statement was based are sand fields which were rapidly developed, and in general under a water-drive?

A Well I do not quite agree with that, Dr. Boatright. My recollection immediately extends to one of the large fields

of Texas which started the development in West Texas, that is the Ranger and Eastern fields, going back to about 1918 that in many areas similar conditions on those fields so far as the geology and recovery might be concerned.

Q Those fields were lime fields, were they?

A Yes.

Q And were they or were they not under water-drive?

A Well I think they are under water-drive, yes.

Q And this field is not under water-drive?

A That is correct.

Q And in that respect at least they will be dissimilar?

A That is correct.

Q And in your study of the decline curve of this field, did you find any indication that 65% of the recovery would have been obtained in the first two years in any of the wells in the Turner Valley field?

A Well as I stated in my evidence I had disregarded the evidence of the decline curve used by Mr, Dr. Link, in arriving at my judgement as to what the ultimate recovery would be in this producing area.

Q However you did consider that, didn't you?

A I did consider it.

Q And you did study these curves, didn't you?

A Yes.

Q And in any of those curves did you find any place where 65% production had been reached within two years?

A Well I do not recall that I made a calculation from those directly but my recollection now extends to what was contained in the record, that Dr. Link's estimate was predicated on the recovery of some 66% during the first two years of

the life of this field.

Q And you knew of course that Dr. Link's own statement made during this Hearing that that was merely a first approximation, did you not?

A I think that is correct.

Q And therefore the figure of 65% may or may not be correct so far as you know?

A I think that is entirely correct, Dr. Boatright, it may or may not be correct. That I disregarded it as evidence is an indication that I am doubtful of it. However I do wish to draw to your attention again that in most of the fields which were produced under the old production conditions that the vast majority of them in their oil life, it may not have been two years, it might have been three, depending upon the rapidity with which they were drilled out, attained somewhere from forty to sixty or seventy percent of their ultimate recovery in that period of time. Now I can cite you records of dozens of fields that have done that.

Q But that statement I believe, and if I am incorrect you can say so, is a generalization and your study of the Turner Valley field has indicated at least so far as you have gone, that that statement may not be true with respect to this field?

A That is entirely correct. It might not be true.

Q During your discussion of the field I believe you mentioned something about the gas force pressing in one direction and the water force pressing in another direction, in a field under a water-drive, is that correct?

A I think it is in general correct, yes.

Q And as I understand it under those conditions the water exerts a force in one direction and the gas exerts a force in the other direction?

A Yes.

Q The production of course resulting from the result of those two pressure forces acting against each other?

A Yes.

Q I would like to ask you with respect to the Turner Valley field, if we have a force pressing in one direction back on the down stream side, by an immovable body of water, then that gas on the top will react in the same way, except the movement is coming from one direction instead of two, is that not correct?

A That is correct, absolutely.

Q And that being true then it is rather important to conserve the gas reserves in the cap, is that not correct?

A I will agree with that.

Q And any wasteful use of gas in the gas-cap in the Turner Valley field will of necessity effect the recovery of oil from that field?

A Yes, I have the impression and I think I indicated that in the question which I asked mr. Gill yesterday that when the gas is exhausted in this field that it will mean the end of production. Now I think you may have a different view in regard to this gravity effect, I do not know what that will amount to. One of my approaches to the problem of determining, trying to determine what the ultimate recovery of this field was, with maps such as these, was to calculatejust when the gas would terminate, but I landed myself, I landed into difficulties, of knowing how much gas is going to come out of that oil, so I backed off from that method of inquiry. You have to know the amount of oil first before you can know the amount of gas in it.

Q I believe in discussing decline curves you pointed out that they were subject to individual interpretation to a great extent?

A I think that is correct, yes. That is, when you have inadequate data or you have these factors, acidization or the influence of pro-ration. There is some latitude there as to how you want to project that curve.

Q Did you or did you not in arriving at your estimate of the reserves use decline curves of the wells in the field?

A No, I disregarded them altogether.

Q Realizing, of course, that curves could - depending upon personal interpretation - run from a minimum of two years that Mr. Link obtained up to a maximum in excess of fifty years, depending upon the particular interpretation that was placed thereon?

A Yes.

Q And for that reason you did not use decline curves?

A Yes.

Q And did you in the course of your study make a close analysis of the decline curves?

A No.

Q I believe you mentioned the B. & B. Well and introduced into evidence the production curve of that particular well?

A Yes.

Q And I believe also that well was acidized, wasn't it?

A Yes.

Q In your extrapolation of that curve, did you or did you not include in your extrapolation the period after which that well was acidized?

A We eliminated the period of the acid. As I interpreted Mr. Gill's interpretation of this production record, he projected

through the high point of the acid treatment. We took the lower point, disregarding the acid injection on the theory that that provides an artificial stimulant and did not represent the actual decline in production.

Q However, after the acid treatment did you include that portion of the curve in your extrapolation?

A I do not think we did, Dr. Boatright.

Q Did you do that extrapolation in constructing that curve?

A No.

Q Who did that?

A I think Mr. Moore, and some of the engineers of the Royalite.

Q Then, of your own knowledge, you do not exactly know what was taken into consideration?

A Yes, that is correct. I merely introduced the evidence of these curves to show that two men working with the same data might arrive at different conclusions as to what the ultimate production of that same well would be on the basis of the information that they had.

Q And you in your estimation of the reserves did not in any way consider the data on this?

A No, sir.

Q I believe that you made the statement that only three wells during November were able to make their allowables?

A That is correct, according to the information that has been furnished me.

Q And what was that information?

A It was the production record furnished to me by the Royalite Oil Company.

Q And of your own knowledge then you do not know that that is right?

A No, I do not know.

Q You have no way of knowing what the conditions surrounding any

of the wells were?

A I have no way of knowing what these productions were except the record placed in my hands.

Q That was just the data produced by the Royalite on the production of those wells during those months?

A Yes.

Q Without any detailed knowledge of what actually occurred?

A I just took the allowable figure and I took the production figure at the end of the month and on the basis of that evidence I discovered that the wells were not making their allowables, with the exception of three wells, three or four.

Q Do you have any idea what the Royalite practice is in the field?

A In what regard, Dr. Boatright?

Q Concerning efficient operation of wells?

A No, sir, I do not.

Q You do not know then whether or not those wells might have been producing below their actual potential in order to more efficiently produce regardless of what the allowable was?

A According to this record that was furnished me there was a statement on it that there were some Royalite wells that could have made in excess of the allowable, I think some six or seven wells.

Q And that would, of course, have increased your figure?

A Yes, it would.

Q You have no way of knowing how many other wells that were not Royalite wells might have been in the same position?

A That is correct, yes. However, I might state in that connection, Dr. Boatright, according to the information I have, and on this record, that I am under the impression that this allowable was cut back in the field because of the serious drop of bottom-hole pressures, after this high allowable was instituted.

Q These serious drops in bottom-hole pressure would not necessarily have meant that the wells could not produce their allowable?

A That would not necessarily follow, but it evidently showed that the field was producing at a rate that was pulling down that bottom-hole pressure at a pretty good rate.

Q In making your estimate of the recoverable reserves, I was not exactly clear where you got the figure of 20%?

A I just pulled it out of thin air.

Q Well, what was that based upon?

A My knowledge of the production behaviour of fields in general that are produced under open flow conditions in their early life.

Q And approximately how many of those fields would you say were back of that figure?

A Well, I do not know how many fields. Probably the vast majority of the fields that were produced in the Unisted States prior to the instigation of pro-ration.

Q And of those fields that were produced in the United States prior to the instigation of pro-ration, how many fields approximately did you include in this estimate were similar to the Turner Valley field in sub-surface conditions and in being lime fields with low porosity and permeability?

A Well, I do not know how many. I do not know that I know of a field in my own experience that has all the peculiarities of this field, but every field I would assume is a problem unto itself. But on the other hand, so far as production of oil is concerned, the behaviour of a production curve, when you drill it under fairly competetive conditions and permitting the wells to produce all they will produce will

show in general the same type of decline, no matter whether it is the Turner Valley field or any other field.

Q That is, they all have the same general characteristics?

A They all have the same general characteristics if they are produced under substantailly the conditions that have prevailed in the Turner Valley field up to the time that pro-ration was instigated.

Q You have no idea of just how many of the fields, in reaching that figure, would be similar?

A No, I would not have any idea of the number of fields that might duplicate this Turner Valley field.

Q How many fields in the United States do you know of that are similar to the Turner Valley field?

A Well, offhand I really do not know of one, but there may be some.

Q If you do not know of any you certainly could not have taken those into consideration in arriving at that figure of 20%?

A That is correct.

Q Another point I would like to straighten out is how do you correlate that figure of 20% with your statement of the whole production which occurs in most fields in the United States?

A I have tried to be reasonable in my estimation of these reserves. Again, it is not my estimate, but my judgment, as to what the ultimate recovery may be expected to be. I might have used 30%. I might have used 40%, but I used 20%. From my own experience I know that in general lime fields do not have the same recovery as sand fields, and that on the average and when you get a lime field with a recovery of anywhere from ten to twenty thousand ~~acres~~ bbls or within the limits of our historical records on those fields

there are some exceptional instances ~~of where~~ lime fields have produced larger quantities of oil. The Yates field in Texas, one of the very large fields in the United States at the present time, is one of the exceptional instances of which you have some production from the lime, a water drive, but its tests as compared with the Turner Valley is this, to my mind, - I might be wrong about it - but the potential of the wells in the Yates field, and I think the Yates field is in general drilled up to this spacing, one well to forty acres, the potentialities of the Yates field compared to the wells in this field are very much greater than anything I have seen, so far as the potentials of these wells are concerned, that is, there are records, so far as my memory extends, where tests made of the potentialities of the - we have not had any tests made of the Yates similar to what you have here, with a thirty days' running, but there are records of wells on the basis of the potential tests that were made that would probably be in excess of 100,000 barrels a day.

Q And on those wells, what did you find in percentage the recovery in the Yates field was in comparison with the total to be expected?

A It is very low, because the Yates has been under pro-ration since almost the inception of the field, and production has been held back steadily and the wells have never been given an opportunity to produce all of the oil that they would be capable of producing. The Yates is one field that pro-ration started in this country, that is in Texas at least, and instead of taking that rapid decline in production that you ordinarily get, the decline of production at Yates is entirely flat. That is, you have a very fine illustration of

what pro-ration does to your decline curve.

Q So as far as the Yates field is concerned in arriving at the 20% it would be more or less worthless?

A Absolutely. It would have no bearing on this problem at all. The only point I wanted to make in regard to bringing in the Yates field is this, that to my mind, and I might be mistaken in this regard again, that the potential of a well, or in other words the first thirty days' production in the history of a well, gives a very good index, to my mind, if you permit that well to flow under open flow conditions, of what the ultimate recovery might be expected to be in that particular well, or in that particular field in general. The larger the flow of that well means that there is a larger quantity of oil stored in that reservoir and there is large pressure against it and it comes out at this very large rate.

Q How do you use that thirty days' production in arriving at what a field will produce?

A You cannot use it except as you have these decline curves made up on a given field which will show what the average decline is on a given well, so you get the first thirty days' production and the first year's production.

Q In arriving at your decision here do I understand you did that. You took the first thirty days' production and from that......

A I did not, no sir.

Q You did not do that here?

A No, sir.

Q You just estimated the production and you judged it with 20%?

A Approximately 20%.

Q And that is how you came at that figure of 10,000 barrels?

A That is how I came at that figure of 10,000 barrels, and in view of what has been told me, and I have observed in regard

to the porosity of this formation and its permeability and the rate at which these wells were producing, that would be, in my judgment, a fair estimate of what ultimate recovery might be expected in that particular producing area. I won't say it is low and I won't say it is high. It is a question of my judgment in that regard and if it is anything it is a guess.

Q Do you know approximately how much oil and how much distillate was produced from the Turner Valley field up to date?

A Well, I know that the production is somewhere around 750,000 barrels. I mean 7,500,000 barrels. Approximately 8,000,000 barrels.

Q Have you any idea how much of that is oil and how much is distillate?

A I have looked at these figures but I cannot give them to you offhand.

Q Do you know if part of that distillate at least came from the so-called gas-cap and did not come from the oil-cap?

A Yes, I know that is so.

Q There is no distinct division between the two.

A I know that these wells are classified and have been classified in these production records I have looked at as naphtha wells and crude oil wells. The naphtha wells, as I uhderstand it, there is a certain amount of distillate that is produced with this gas in the wells that are drilled in the Cap Rock area. The crude oil wells are wells of a different gravity and produced down in this crude oil area. There is a border lying between the two where there was a high gas ratio and which might originally start out as a crude oil well and when the pressure declines it will go to gas and distillate.

Q You knew, of course, that the distillate, as such, was probably contained in the reservoir in the gas phase, didn't you?

A Well, I supposed I knew. I do not know whether I did or not.

Q You did not consider that?

A No, I did not consider that.

Q You do not know how much of that 7,400,000 barrels which you assumed actually was oil production from these 63 oil wells, do you?

A The only information I had is the information that is furnished me as a record of the crude oil production of certain gravity. In addition to that there was a certain amount of naphtha production but I ignored the naphtha production.

Q Do you know as a matter of fact that there was listed 7,821,547 barrels of naphtha from the Turner Valley field and that only 2,702,976 barrels of crude oil are listed from the Turner Valley field, according to the official records of this Province?

A I have seen those records, yes.

Q Then the figure of 7,400,000 that you used was obtained where?

A From the production records that are obtained from the Royalite Oil Company.

Q You do not know then what that includes?

A I do not know, only I am assuming that seven and a half million barrels represents what they designate as crude oil as distinguished from the naphtha or distillate.

Q This figure, of course, would be up to the first of January, 1937?

A Yes.

Q And as far as I know there has been introduced no record

[illegible]

covering your figure in this case. In other words, I am not saying that figure of 7,400,000 might not be right, but I was wondering where you got it inasmuch as it has not been used?

A I got it from the Pipeline Department of the Royalite Oil Company.

Q I said until the first of January, 1937, and I mean the first of January, 1938. Do you know what period of time that includes on those wells?

A It includes the production of all wells, that is the crude oil production, not the distillate production, of all of the wells of the Turner Valley field from the discovery of the first discovery well, Turner Valley Royalties No. 1, and I believe that it excludes - I believe I had them deliberately exclude the production of the wells from the north end of the field. So that I had a record of what the production has been in the producing area to the south that we are using.

Q In this south area only, and that figure of 7,400,000 then which you used and which you are not sure about the naphtha, applies only to the south end of the field?

A That is correct.

Q And only includes 63 wells in that south end?

A Yes.

Q Would it include the production from Anglo-Canadian No. 1?

A Well, I do not recall. I do not recall as to whether that production is included or not. I will have to get the company officials to tell me that. I would be unable to answer that question, Dr. Boatright. However, if you wish it I will try to secure the information and furnish it.

Q It is pertinent to the case, that is the reason I asked,

A What was the well again?

Q Anglo-Canadian No. 1.

MR. NOLAN: I am informed, Mr. Chairman, that was included in the figure.

Q DR. BOATRIGHT: In going through your calculation you took the figure 7,400,000 barrels of oil and divided by 63?

A Yes.

Q And that figure 63 refers to the number of wells in the oil area to the south end of the field?

A Yes, sir.

Q And arrived at a figure of 118,643 barrels?

A I do not know whether that is the exact figure. I am assuming you are quoting me correctly.

Q That is the figure I took from your testimony?

A Yes.

Q And then you said that that figure represented 20% of the total recovery to be expected from the average well in that oil area?

A In my judgment, yes, sir.

Q And applying then that figure of 20% to the 118 some odd thousand barrels you arrived at a figure of 593,215 barrels, which represented the average recovery to be expected from the average oil well in the oil area of the Turner Valley field at the south end of the field?

A That is correct, yes.

Q How many acres of land are involved in that south end of the field and include these 63 wells which you took?

A I think some 3600 acres. I can look it up and tell you again what I figured on, if it is essential.

Q It is the same figure that was introduced into this record as 3,632 acres?

A That number included all of the productive area including the north end of the field, didn't it?

Q No, I do not think it did. Did you count the acreage or did you count the number of acres in the south end of the field?

A I did not count the number of acres. I took Dr. Link's map and the record and I considered that figure was correct and commonly accepted.

Q You knew the average well spacing in the field was 40 acres, that the average in the south end of the field is much less than 40 acres, and the average for the whole field was 46½ acres?

A I knew the spacing in the south end of the field was approximate 40 acres. I discovered in some of this cross-examination of Mr. Davies that he actually put the average spacing at 46 acres to the well.

Q Do you know how Mr. Davies arrived at that figure?

A No, I do not.

Q You did not check it on your own?

A No, sir.

Q Do you know that if a figure of even 40 acres to the well was assumed that by no stretch of the imagination could you get 3,623 acres productive in the south end of the field?

A Forty times whatever it is the number of wells. That would be 63 multiplied by 40, which would figure out to be......

Q 2,520 acres, would it not?

A I do not know, I have not calculated it.

Q If it did figure out 2,520 that would be a reasonable figure in which to divide into these 63 wells because you took the production from those 63 wells, didn't you?

A I do not think it has any bearing on the problem on hand at all.

Q Why did you use the figure of 3,623 then?

A Because I used that as the number of acres which according to this record were proven by these particular wells.

Q You excluded all of the north wells in arriving at your total production?

A I excluded them because I wanted this south area where it is producing oil and use it as a yard-stick. It did not matter whether the spacing was 20 acres or 40 acres in that area, but judging the number of wells that were there and the production you get the average production per well.

Q Per well?

A Yes, per well. Now, then, you estimate the future production of those wells, which I did on the basis of my 20% and multiply that by the number of acres in that ground there, which gives the total number of barrels under that ground. It does not make a particle of difference whether the spacing is 10 acres or 5 acres or 40 acres. It does not affect that result of 10,000 barrels.

Q Do you think that the wells in this end of the field are drawing clear from the north end of the field ?

A I did not say that, no, sir.

Q Do you think they are?

A I doubt it very seriously.

Q All right. In arriving at a figure such as you used it is absolutely essential you use the area that is being drained by these wells, is it not?

A As a measure of trying to determine what the ultimate production is in that particular area I suppose you ought to have some idea of what area is being drained. That the area down in the south end is draining the wells in this north end I do not for a moment believe, except to this extent, as the gas-cap is charged with gas and as the gas is depleted in this reservoir it might be that to the extent the southernmost wells were depleting the pressure in the gas reservoir to that extent

there might be some draining of these wells on the north.

Q Approximately how long a time do you think it would take for an effect on the wells up there to affect a well down here?

A I do not know.

Q Do you have any idea?

A No.

Q In arriving at your figure of oil production per acre for this area it is absolutely essential you use some area, is it not?

A Yes.

Q Is it your opinion it would be right to use the total area of the field in arriving at that?

A I did not use the total area of the field.

Q You used a figure which was comparable in that you used part of this area here and part of that area here in your estimating?

A I did not do that figuring.

Q Do you know where that figure of 3600 acres that Dr. Link used came from?

A I do not know except he has a map that has been introduced in this record and the record shows 3600 acres of producing land in that area. I have used that figure. I have not verfied it.

Q You took a number of acres that was vital to your figure but you do not know where it is in that field, is that right?

A I certainly know that these acres that is designated as the producing acreage is in the south end of the field.

Q Can you point out on the map the 3600 acres that you used?

A Yes. I do not know whether I can point it out on your map but I can point it out on the map which is in the record.

Q Would you get the map which suits your purpose them?

THE CHAIRMAN: Mr. Nolan, is that map which you have handed to the witness an Exhibit?

MR. NOLAN: No, my lord, it is a copy of the map which is the Exhibit.

THE CHAIRMAN: What Exhibit is it?

WITNESS: No, this is the map which I used.

THE CHAIRMAN: Wait a minute, until we find out what number that is by looking at the map.

Q MR. NOLAN: Do you think that is it?

A Yes, that is it, yes.

MR. FRAWLEY: That is Exhibit "7".

THE CHAIRMAN: The witness is speaking about Exhibit "7".

WITNESS: Yes.

THE CHAIRMAN: All right.

THE WITNESS: The area designated in red on the map, which is marked on the map, introduced in evidence, shows 3623 acres that is proven crude oil area.

Q DR. BOATRIGHT: Then in arriving at your reserves for your field you took all the area which is shown in red, solid red, on Exhibit "7", is that correct?

A I took all of the red area on this Exhibit, yes.

Q I call your attention to this Exhibit, that includes land in the south end of the field, the middle of the field, and the north end of the field, doesn't it?

A It includes a little acreage in those places.

Q Do you know how much acreage is involved in those two small areas?

A I do not know that I know exactly but there is one well here which might be 40 acres and there might be, three wells there, I should say those might be about 60 acres and 40 acres would be 100 acres.

Q But you are not sure of that figure, are you?

A I am not sure of it except as I scale it here on the map.

Q And yet you used a figure for productive acreage which was not investigated by you at all, is that correct?

A Except as I referred to the record and saw that that had been accepted, or at least was Mr. Link's testimony, and I accepted that as what the proven area was.

Q Well, you knew, of course, that that was fundamental to your method of estimating reserves, was it not?

A Well, so far as estimating reserves in this particular field is concerned.....

Q Well, do you realize that had you used a figure of 40 acres per well as being the drainage area for the well.....

A I didn't pay any attention to that.

Q It has been brought out during all this testimony that if you did that you would have had 2520 acres in this south end of the field, and dividing the figure of 2500 into the figure of 593,215, would have given you in excess of 20,000 barrels per acre. Did you take that fact into consideration?

A No, I didn't take that fact into consideration.

Q And if that figure of twenty some thousand barrels per acre had then been applied in the manner in which you applied it?

A I would not have changed my figure with regard to this.

Q Your reserves would have very closely checked with those of Mr. Gill?

A If I had made that assumption that this area would produce 20,000 barrels per acre, which I do not believe in my own

judgment it will do, then I would have come at that larger figure, that is correct.

Q Then in analyzing your estimate, you first took the figure of 20%, which was based entirely upon your experience, none of which had been in a field similar to Turner Valley, is that correct?

A Yes.

Q And then you determine from production figures which were furnished to you and which you did not check, of 63 wells in the south end of the field, you determine the production per well based upon those figures?

A Yes.

Q Then you......

A Regardless of what the spacing was.

Q Then you applied this assumed figure of 20% to that figure and arrived at the total production to be expected from those 63 wells in the south end of the field?

A Yes.

Q And then you divide that by the total productive area in the field, including the productive areas in the middle of the field and in the north end of the field?

A A matter of some one hundred acres in that north end, which would not materially affect the result, I do not think.

Q And thereby arrive at your figure of twenty-three years of possible production on the basis of five and a half million a year?

A Yes, that is correct, that is the maximum of the field.

Q Now, I believe that you made some statements concerning pipelines, have you had any experience at all in pipelines?

A No, sir.

Q You realize, of course, that any lifetime for a pipeline involve other factors than the life of the field?

A Well, I do not qualify as an expert in the matter of pipelines, and the opinion whch I expressed was an investment opinion.

Q In other words, that figure.....

A It would be just an investment, an investment to be made in this field as just some operator who wanted to go to a Bank say and borrow some money on a producing property there, and I was asked the question by the Bank, a question that I am frequently asked, "Can we make this loan on this property?" And if I had that specific problem before me to-day on this particular property in the Turner Valley field, to-day, and I might state that I very rarely ever approve of a loan for these Banks if they do not see their money back in three years, regardless of what the reserves are.

Q And that is the type of estimate which you have made here on this twenty-two years?

A I am, you are talking about pipelines now, I am talking about Bank loans.

Q They both will wind up in the same place, I imagine?

A Well, they might. I am talking about Bank loans.

Q And, as a matter of fact, that ten year life estimate is based primarily upon the fact that most pipelines do amortize over a ten year period, or on a ten year basis?

A I do nott know over what period of time they amortize, Dr. Bostright.

Q In other words, that ten year figure is something which you are sure will dodoubtless/be reached, and is not backed up by any personal knowledge of your own?

A That is correct, except I wish to again repeat the statement which I made in reply to Mr. Nolan's question, that is, if

the matter was put up to me by a group who were interested in making such an investment in the Turner Valley field and I was asked the question as to whether or not they should make such an investment, no matter what the money was, my judgment would be and my advice to them would be, knowing the hazards and the risks, and disappointments, - and there are many of them in the development of these oil fields, I have had a lot of personal experience with them, - in view of those factors, that none of us can foresee in this probable area, as well as unforeseen marketing conditions, political conditions, in view of all the risks and hazards involved, if they had to wait a longer period than ten years to get the return of their investment I would advise them not to make such an investment.

Q You are familiar, of course, with the rates the Banks use? And what is the rate with regard to oil property, what safety factor do they use?

A I do not know.

Q Would 25% be approximately correct?

A I do not know.

Q You have made valuations?

A I make them every day, I have a telegraphic enquiry to-day.

Q Do you know what the Banks' safety factor is?

A I know I do not recommend a loan to any of my client Banks that will take more than three years.

Q What safety factor would you say that you use then?

A Well, it depends on the amount of reserve that you estimate for the property.

Q Well, what safety factor do you use, can you give any safety figure at all?

A No.

Q As a matter of fact, most Banks for investment purposes in oil properties require an investment security of from three to six times the actual value determined by the engineer, is that not correct?

A It depends on the Bank and the man who is doing the estimating.

Q But is that not correct?

A My particular client Bank accept whatever figures I put on the loans, they leave it in my hands.

Q What percentage figure do you use?

A I do not know that I use any definite percentage figure, it depends on the property.

Q Well, in the case of the Turner Valley field, for instance, what figure would you use?

A Well, I do not know that I understand exactly what you are, what figure you are trying to get.

Q I would like to know if you were recommending an investment to a Banker in the Turner Valley field?

A The twenty-two years' life.....

Q Wait until I finish the question, please.

A Yes.

Q What percentage of the true value of the field such as Turner Valley would you use in recommending an investment for a Bank?

A Well, on the basis that I have predicated this statement in regard to this pipeline I would say that the field would have to produce probably 50% less before they would lose any money.

Q In your common estimates do you ever recommend to a Bank that they advance 50% of the probable value of the property?

A I do not recall offhand right now what my recommendations are, Dr. Boatright.

[illegible]

[illegible] and [illegible]

[illegible]

[illegible] recommendations [illegible]

[illegible]

Q How many recommendations have you made to Banks during the past twenty years?

A I cannot answer that question either. I can tell you about the last two or three years. I can tell you about last year.

Q How many?

A Oh, I should think probably twenty or thirty loans.

Q And in any of those loans did you advise investments up to 50% of your estimated value of the property?

A I don't remember now.

Q Do you remember to whom those loans, to what Banks those reports were made?

A I know absolutely, but I do not care to disclose that information here.

Q And yet you have no idea of the figure you used?

A No.

DR. BOATRIGHT: I believe that is all.

THE CHAIRMAN: Any more questions?

Q MR. FRAWLEY: I want to ask you just a question, Mr. Deussen, to see if I understand what you mean, your estimate, your best estimate of the life of the Turner Valley field is 22.3 years?

A Yes.

Q And that is the opinion which you gave after the best study that you were able to make of the field?

A Yes.

Q Now, you say that if you were asked to advise a Banker with respect to the putting of money into a pipeline into Turner Valley you would give him, you would see to it that he got his money back in ten years?

A I cannot see to it, but I would say if he could not on the basis of what this thing looks like now, see his money back in

ten years that I would advise against making such an investment.

Q Does that mean then that you would like to see your client get his money back in ten years and then go on for the remaining ten operating on what is commonly called "velvet"?

A Well, Mr. Frawley, I wish again to repeat that I am not a pipeline man and I am merely judging this particular question that is put to me, and the answer I would give to it, if that hypothetical question were asked me, "Shall we invest this amount of money in the Turner Valley field to-day on the basis of what you know about it " and my life of twenty-two years and other engineers have put on different lives, I would say "Unless you can see where you are going to get your money back in ten years I would advise against the investment." Now, what the rates are going to be from now on I do not think I am qualified to say, Mr. Frawley.

Q That may be the answer. Perhaps you do not care to venture into it, but I just wanted to try and understand the relationship between those two figures, the 22.3 which you say is the life of Turner Valley, that means so far as you are concerned for 22.3 years the Royalite Oil Company will be pulling oil through its pipeline?

A Presumably so, yes.

Q But you say that so far as I am concerned I would like to see them get back their total investment which they might make to-day, assuming it was a new pipeline started to-day, in ten years, that also follows, does it not?

A Well, that is correct, it is the same as if I was going to buy a royalty in that field, - and I buy royalties every day, not every day, but every few weeks, in Texas, - because that is a considerable part of my activity, - and if I buy a royalty, I will not buy a royalty even although on my best

judgment that royalty may produce for twenty years or thirty years or forty years, according to the estimate we have, but I am not going to put my money into a royalty unless I can see my money back in three years or five years, or at the most ten years. Now, it is on the same principle that I would advise these people.

Q I do not want to labour it, but you expect the Royalite Oil Company to get the cost of its pipeline back in ten years?

A Yes.

Q Then they will go on pulling oil through their pipeline for 12.3 years, and that is completely velvet, is it not?

A It may be.

Q Yes.

Q THE CHAIRMAN: Mr. Deussen, I just want to be clear, you have discussed for purposes of enlightening the Commission?

A Yes.

Q The investigations made by other engineers and geologists and the data which they have provided for your consideration?

A Yes.

Q And you have given your reasons for bringing what they have said to our notice?

A Yes.

Q But basically, if I apprehend what your evidence means, basically you found your opinion to us upon the past production of the field in the proven area plus your geological instinct as to what will happen in the future?

A Absolutely, Mr. Chairman.

THE CHAIRMAN: Thank you, the next witness.

MR. FRAWLEY: Would the Commission give us five minutes recess now?

THE CHAIRMAN: Very good.

(A recess of five minutes was here taken.)

THE CHAIRMAN: Mr. Harvie, while you were absent following the noon adjournment, the question of whether or not the Commission should give a decision on the pipeline rate as a thing apart at the conclusion of all of the evidence that seemed to have a bearing on the pipeline question, was the subject of discussion. Have you any views to express with regard to that?

MR.HARVIE: I have nothing, Mr. Chairman, in a definite way, other than it would appear to me that it will largely depend on what you call all the evidence that would pertain to the pipeline. My own judgment is there will be considerably more evidence come out in the refining section, and the inquiry particularly into the marketing that will have a very definite bearing on the problem before you. For instance, I think the usage of the pipeline is a very material factor. I do not know whether there is any justification to consider that the figure which we will say is 15,000 barrels we are using will last for any definite period of time, or whether it be cut or increased is something I think will come out in either the marketing or the refining division of the Inquiry. I think maybe that is an essential figure before we can do anything in that.

THE CHAIRMAN: Why is that not properly part of the evidence to be introduced in this matter?

MR. HARVIE: That might be. As I say if I knew just what evidence would be introduced in this section of the Inquiry, it would be a much simpler question to answer.

THE CHAIRMAN: Well, the proposal of the

Commission presupposes that Counsel will now introduce all evidence which has any bearing, including those matters of which you speak.

MR. HARVIE: That being the case, I possibly see no reason offhand why they should not come to some quite definite conclusion, but I think there will be a lot of duplication. That is we are going to call a lot of marketing and refining evidence in this phase that would have to be duplicated possibly in the other phase. However, that is for Commission Counsel to decide.

THE CHAIRMAN: What would your view be as to this, if the report of the Commission is to be of value it would be better would it not to have it given upon known facts rather than upon supposititious data.

MR. HARVIE: I think so, very definitely so.

THE CHAIRMAN: Would it not be important for those concerned with the discussion of the refining costs to know what this Commission had decided was the proper pipeline rate?

MR. HARVIE: I think it would be possibly quite helpful. On the other hand, whether it would break up the sequence of the evidence and be feasible in that sense I am not quite prepared to say at the moment. I would like to give the matter consideration and discuss it with my client. But there is no doubt that the more points we can clean up as we go along, it will assist in other phases of the Inquiry. But just how completely that can be done, and effectively, piecemeal, I am not so sure.

THE CHAIRMAN: We are glad to have your views, Mr. Harvie. Now Mr. Frawley.

MR. FRAWLEY: The next witness will be Dr. Boatright, whom I am going to put in in reply, and I would thank the Commission for the indulgence of an adjournment now so that he may get his material together and go on the stand as the first witness in the morning. I have spoken to my friend, Mr. Nolan, about it, and I think he will join me in my application to the Commission for an extension.

MR. NOLAN: That is quite so.

THE CHAIRMAN: Any objections? We grant your application, Mr. Frawley.

(At this stage the hearing was adjourned until 10.30 A.M., January 11th, 1939).

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IN THE MATTER OF THE PUBLIC
INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the
12th day of October, A.D. 1938, to inquire
into matters connected with Petroleum
and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta JANUARY 11th, 1939

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January 11th, 1938.
10:30 A.M. Session.

THE CHAIRMAN: We are sorry to keep you gentlemen but it seemed important to us that we should have a short conference this morning.

Now with regard to the pipeline matter which was the subject of discussion yesterday. The members of this Commission have given careful consideration to all that has been said pro and con upon the question of whether or not we should give an early report as to the Pipeline Rate and other pipeline matters, the subject of inquiry. Having come to a conclusion we think that conclusion should be stated without delay.

Our conclusion is that so soon as all the evidence is in which has a bearing upon the pipeline matters this Commission should adjourn to consider the evidence and to make a report to His Honour the Lieutenant-Governor in respect of pipeline matters.

We have come to this conclusion for a number of reasons. In the first place it has at all times been made clear during the progress of this inquiry that the Commission desired to have the evidence with relation to the pipelines dealt with separately from the other matters which are the subject of inquiry. The only question, therefore, which we have had to consider in the light of what has been said to us as to whether or not, having completed that inquiry, we should come to a conclusion with respect thereto or should defer decision on the off-chance that some evidence would come out in connection with other matters which would assist in coming to a conclusion in this matter. We think that that possibility is not a sufficient reason for deferring decision. It is to be remembered that at least in respect of a pipeline rate we are

merely performing a function of the Public Utilities Board, by direction and so we think we should do as that Board would in all likelihood do, namely, give a decision so soon as may be after all evidence is in and not defer decision on the ground that in a few months' time some one interested might think of some other evidence that would be relevant to the Inquiry. We are not unmindful of the possibilities mentioned by Mr. Nolan but we think that these are possiblities which he and his experts should now explore.

In the second place insomuch as the evidence with relation to pipeline matters is in the main involved and difficult we think that it should be dealt with while it is fresh in our minds and not intermingled with evidence as to the other difficult questions which are committed to our consideration.

In the third place the evidence given being based upon conditions past or present we think that there should be a present decision and not one that is deferred to a time when conditions may have so changed as to necessitate further expert testimony with respect to new conditions. In this connection it is to be remembered that the rate to be struck by us for purposes of recommendation, even if accepted by the Public Utilities Board or the Government of the day, will not be a final rate in the sense that anyone interested is debarred from thereafter applying to the Public Utilities Board to amend the rate, if changed conditions would seem to justify such an application.

Another reason for coming to the conclusion which we have which seems to us a cogent one is

that the present determination of a rate should be an advantage to parties concerned with other branches of this Inquiry as for example refinery costs because there will then be a rate certain as a basis for discussion as distinguished from an assumed rate which may or may not be the rate ultimately settled upon by the members of the commission as the proper one to recommend.

For the reasons given we have come to the conclusion before stated. All interested parties will therefore govern themselves accordingly.

MR. FRAWLEY: I will call Dr. Boatright.

DR. BYRON B. BOATRIGHT, having been recalled, examined by Mr. Frawley said:

Q Dr. Boatright, you are still under oath?

A Yes.

Q And you are being called by way of reply?

A Yes.

Q I want to direct your attention to one or two matters and invite your comment upon them. I think it is a fact that Dr. Link and Mr. Gill and Mr. Deussen, commented upon your views, I mean your use of the porosity method of determining reserves, that is so, is it not?

A That is correct.

Q And is it true that basically your method was the porosity method?

A That is correct.

Q Then Dr. Boatright, will you make such comment as you think is pertinent upon those remarks which have been made by the people upon your method?

A Because of the conditions prevailing in the Turner Valley field and after an analysis of those conditions prior to

[illegible]

making my original estimates of the oil reserves in the Turner Valley field it seemed to me that any estimates made upon a conservativ basis must of necessity include as great a number of wells as possible. It has been admitted throughout the testimony in this case that the field is spotted; that it is a limestone field and that it has pecularities which are not commonly found in other fields. The various methods which have been presented here by the different engineers were all considered prior to the time I decided to make my estimate upon the basis of porosity. Mr. Gill, in his discussion discussed the various methods of estimating reserves and analyzed them. I did the same thing prior to making or prior to basing my estimate upon the prosity method. In the case of the various types of methods, the production decline curves I believe were used by Mr. Link and by Mr. Gill.

I believe that the evidence brought out in this case established that Mr. Link arrived at a field life of something like 2 or 3 years and that Mr. Gill arrived at a field life of something over 36 years. I believe that had Mr. Link's estimates been based upon his so-called "probable" acreage, that his estimate would have been somewhere in the neighborhood of 25 years. That gives a discrepancy of around 70%. Upon the basis of the individual application of the decline curves by two different men, taking into consideration what they thought was necessary insofar as the field is concerned, in those estimates, Mr. Link I believe used 4 wells and Mr. Gill I believe used something in the neighborhood of 10 wells, Mr. Link's wells of course were located a few in the gas-cap and one or two in the oil horizon, two of the wells

I believe being in a sort of intermediate zone called the gas-oil contact, one being very definitely in the gas-oil contact and the other being a definitely oil well.

Mr. Gill's wells were chosen with more care insofar as their position on the structure is concerned. However, the fact remains that there was a discrepancy of some 60 or 70 per cent between their two figures. Applying the two methods however to the figures which I used, Mr. Gill's estimate of 36 years and Mr. Link's estimate of 25 years based on his "possible" acreage would have given a figure fairly close to the 31 years given, give an average figure fairly close to the figure 31 years which I derived by using the porosity method.

In the case of the gas-oil ratios and the bottom-hole pressures which were used by Mr. Davies, that method was also considered. I believe it was developed during the testimony that bottom-hole pressures in the first place have been accurately obtained only during a relatively short time and the basic figures which had to be used in using that method were estimated or had to be estimated as to the life of the productive period assumed. Furthermore, it was brought out during the testimony that gas-oil ratios are a function of bottom-hole pressures and at the particular time that those curves were used the bottom-hole pressures were in a state of flux and therefore, were unreliable. The gas-oil ratios themselves are functions of the rate of production at which the various wells are producing and there was little or no information available concerning those ratios or the relations between the gas-oil ratios and those ratios. Mr. Shaw and Mr.

Deussen based their estimates primarily upon their experience. Both production decline curves, gas-oil ratios and bottom-hole pressures and two other at least displacement methods were investigated by me before deciding to use the porosity method. Admittedly the porosity method has drawbacks, as had all of the others and it was my estimation, and it still is my estimation, that the porosity method for Turner Valley under present conditions offers a reasonable basis for estimating reserves and is extremely conservative. All of the other methods can be interpreted to give results much higher than those which I have obtained by using porosity. I used the porosity, which of course was derived from information furnished me by Mr. Johnny Owre in the Government offices. As support for the information which he derived we have only one core in the field, Spy Hill No. 1. However, in that particular core, which incidentally I believe only included the lower porous zone, a figure in excess of the one I used was obtained for the total void space as has been developed here, whereas there are two porous zones. On that factor alone the figure of 8 foot void space which I assumed based upon my study of these porosity determinations provided at least a safety factor of approximately 50% on the basis of the only actual core in the field. Based upon that porosity method then I arrived at my reserve figure of 17,000 barrels per acre and I still think that that was a very good figure. I might compare that figure with the figures which have been given by other experts here. Mr. Gill estimated 20,000 barrels per acre for his so-called "proven" area which included I believe some 5500 acres. He estimated his "probable" acreage at 7500 acres and on the basis of his experience he said that

the chance was 50% and therefore cut the 20,000 barrels per acre to 10,000 barrels per acre for that area. He took the "possible" area of 6000 acres and said that the chance there was 25%, again based upon his experience with fields of this type or similar types and arrived at a figure of 5000 barrels per acre. Averaging these up purely arithmetically and not necessarily on the acreage involved it shows that his average estimate was somewhere in the neighborhood of 15,000 barrels per acre over an area of about 19,000 acres as compared with the 10,000 acres which I assumed in my estimate and in the 10,000 acres which I assumed I used a figure of 17,000 barrels per acre. Mr. Deussen assumed a figure of 10,000 barrels per acre throughout. Mr. Shaw gave figures of from 15 to 20,000 barrels per acre over the proven and possible areas. He assumed the proven area to be between 3 and 4,000 acres and the probable between 8,000 and 10,000 acres in addition to the proven area. Mr. Link used a figure I believe of 7300 barrels per acre and of course only calculated his reserves in the proven area, which I believe he assumed to be 3623 acres. In other words the figure of 17,000 barrels per acre which I arrived at by the porosity method ranges pretty well on the average between the various estimates which have been presented by the other experts who have testified.

In connection with the acreage which I assumed and with an analysis of Mr. Link and Mr. Davies who only calculated actually proven reserves, my figure of 10,000 acres of "probable" reserves is less than any of the other estimates which were made here. Comparing the life of the field which I arrived at by determining the reserves on the basis of the porosity method, I determined a life of, a probable

or a sure life of 31 years. That compares with an average of approximately 20 years, if we take Mr. Gill's,- Mr. Deussen's and Mr. Shaw's and my estimate together. In other words it seems to me that the porosity method insofar as the testimony here brought out is concerned has been ultra-conservative.

Q And you are quite willing to adhere to that in making your final submission?

A I am.

Q Do you attach any significance to the fact that Mr. Deussen omitted from the wells which he used, the North wells?

A Yes. Mr. Deussen's figures were based first upon assuming 20%, which was purely a figure derived from his experience, with no foundation in the facts of the Turner Valley field; using that figure and the production from a certain number of wells in the South end of the field he determined what the average production per well would be, regardless of the well spacing. Then in arriving at the production per acre he took the total area, total productive area or proven area of Mr. Link, excluded therefrom the dry hole areas of approximately 310 acres, or used in other words a total figure of 3623 acres, and divided the recovery, the total recovery to be expected from the number of wells in the South end of the field, which I believe were 63, and arrived at a figure of 10,000 barrels per acre. Had he used the well spacing in effect in the South end of the field, of some 40 acres, and as a matter of fact in the South end of the field it is not reasonable to assume that the wells drain 40 acres because of the fact that in a great deal of that area, - the average well spacing for the whole proven area on the basis of the 40 acres allottment which is given by the Conservation Board, averages 36 acres to the well, - using the

figure however of 40 acres per well, if that had been used against these 63 wells it would have resulted in Mr. Deussen's figure being approximately 24000 barrels per acre instead of the 10,000 which he used, and I feel that even although his methods were sound insofar as his procedure was concerned, his figure of 10,000 barrels per acre would be erroneous because of the fact that he included areas in the North end of the field in his acreage which were not included in his reserve figure, or his actual production per well figures or the average production for the South end of the field.

Q Now I want to ask you about Mr. Deussen's figure of 10 years after having arrived at a figure of 22 years, he told the Commission, in answer to Mr. Nolan that he would desire to reduce that to ten years, having in mind the advice which he would give to his banker in putting money into the Turner Valley field, what comment have you to make upon that cut in his evidence, in his estimate?

A In my original estimate of 31 years which I believe is the probable life of the Turner Valley field and the life at the rate of 15,000 barrels per day, which the field will realize, I stated that for pipeline amortization purpose I felt that, because of tho fact that estimates based upon any of these methods were subject to errors of approximately 30%, I felt that in fairness to the pipeline companies we should give the benefit of that doubt and suggested a figure of 20 years as being the reasonable life for pipeline purposes; that does not mean that I do not think that the field will last 31 years. I do. That is my estimate of what that field will actually produce as a minimum. However in view of the nature of the fundamental data which is

available at this time, regardless of the method of interpretation, it is my opinion that the accuracy of any estimate cannot be over 70%; therefore it was my feeling that in arriving at the life of the field for pipeline purposes that the benefit of that doubt should be given and it was for that reason that I would allow a period of 20 years for pipeline purposes. Mr. Deussen's estimate of 10 years was a banker's estimate and there is a great deal of difference between that estimate, or estimates made for banking purposes, and estimates made for other purposes. In the first place a bank must have security much in excess of the value loaned. In Texas it is common for banks to require from three to six times the probable, the reserve must be from three to six times the value of the money put up by the bank.

Q Dr. Boatright, have you had experience of the kind you are now speaking of?

A Yes I have.

Q Personal experience?

A Yes. Further, most banks in general wish from two to three year pay-outs. In other words the rate of income must be sufficient to pay out the loan within two or three years. Now that is the type of estimate that Mr. Deussen had in mind when he said that a ten-year life was all that he would recommend to a bank. Incidentally of course, Mr. Deussen did not give any percentage figure.

(Page 1194 follows)

Q MR. FRAWLEY: Dr. Boatright, have you any other general comments to make by way of reply to the evidence which has been given since you were last on the stand?

A No, I think that is everything.

Q You think that is all?

A I believe that is all.

THE CHAIRMAN: Any questions?

MR. NOLAN: No, thank you, my Lord.

THE CHAIRMAN: Have you any intention of calling this witness on any other phase?

MR. FRAWLEY: Yes.

MR. FENERTY: Mr. Gill would like to have the opportunity of asking Dr. Boatright some questions.

Q MR. GILL: Dr. Boatright, there are just one or two questions I would like to ask you about, concerning these estimates, and naturally particularly concerning my own estimates. In the first place, the decline curves form a definite mathematical rule?

A That is absolutely correct.

Q And a study of the mathematical curves, which is the integration of a normal decline curve, will be a straight section on semi-logarithmic paper but not on the rectangular co-ordinates?

A That is right.

Q Might I ask you this, in basing your estimates did you take into consideration the weighted average barrel of oil, in arriving at your figures?

A No, I did not.

Q I believe it is 11,210 barrels for the total reserves, and 10,520 barrels per acre for the remaining reserves?

A That is the weighted figure, I believe. I did not do that.

Q Is it then the only difference in the final results between my estimates and those Mr. Deussen arrived at as the result of his geological instinct that I took into account further developments, particularly with regard to Okalta 6, Extension 1, and Home-Millarville 2, which have taken place since the time that Dr. Link estimated what would be the probable potential oil area?

A I am sorry I did not know whether you were speaking of Dr. Link or of Mr. Deussen.

Q Mr. Deussen used part of Dr. Link's figures. Mr. Link stated seventeen thousand and some acres possible oil territory?

A Yes.

Q I used 17,000 to 19,000. Mr. Deussen used, I believe, 3623 acres plus 10,000 acres. Is not that difference at the present time entirely due to the things that have come to light since?

A That is correct. Furthermore, the difference might be due to the difference in the wells. We measured the average wells, and Dr. Link used to a great extent in determining his figures gas-cap wells.

Q I thank you.

....

NATHAN ELDON TANNER, having been duly sworn, examined by Mr. Frawley, testified as follows:-

Q Mr. Tanner, you are the Minister of Lands and Mines in the present Provincial administration?

A I am.

Q And insofar as operation and development of Turner Valley is concerned, are you prepared to speak

for the present Provincial administration?

A Yes.

Q I want to call your attention to at least two places in the evidence given to this Commission by Dr. Boatright, whom,as you know was called by myself to give evidence for the Commission. At Page 126, in Volume 2, Dr. Boatright said this. "As you all know the field is under pro-ration, and while the pro-ration program is going to have some effect, considerable effect as a matter of fact, upon the actual reserve, in my figures I have assumed that proper practices will be followed in future in the Turner Valley field in getting those recoveries which I have set out." And I call your attention to one more statement of Dr. Boatright's at Page 631, in Volume 6 of the evidence. It is "The people of Canada have a valuable asset in the Turner Valley field, and if it is properly conserved it will serve as a national resource for years to come. However, if it is allowed to continue under the production practices that have obtained in the past, the field will be prematurely ruined." I take it that the Commission, perhaps, therefore, has some concern with knowing what the policy of your Government is with respect to the future, the present and future operation of the Turner Valley field, and the methods to be followed in getting from that field any of the natural resources contained therein, whether it be known as crude oil or natural gas. Will you please state to the Commission what your policy is and what your attitude is towards the operation of Turner Valley?

A The policy of the Government is to obtain the best expert

advice possible and to continue with conservation so that the field will be producing on the best methods known, and to carry on conservation in keeping with the best advice that we are able to obtain. We have commenced, as we think, along that line. It is our intention to continue and if more expert advice is required and necessary we shall certainly get it and continue to see that the field is produced in such a way as would serve in getting the greatest ultimate recovery from the natural resources, and in the interests of the development of the field.

Q Do you intend to see by the obtaining of the best engineering advice you can that proper practices will be followed in obtaining recovery of oil and gas in Turner Valley?

A Yes, definitely.

Q And do you intend to see that nothing but the very best engineering practices are followed, under the advice which you can obtain, in getting these recoveries from Turner Valley?

A Yes. I may say yes without any question to that.

THE CHAIRMAN: Any cross-examination?

MR. NOLAN: No thank you, Sir.

THE CHAIRMAN: That is all, thank you, Mr. Minister.

MR. FRAWLEY: That concludes the evidence that I have to offer with respect to the life of the field, that part of the pipe line inquiry which has to do with the life of the field. I understand that Mr. Nolan has no further evidence to offer, and Mr. Fenerty has no further evidence to offer. As a matter of fact,

I think that none of the Counsel present or Companies present have any further evidence to offer on the life of the field. If that is so, we then will have to proceed with a rather separate matter, and call the accounting evidence, what we have been calling the accounting evidence, with relation to arriving at the pipe line rate. Speaking now for myself as to that point, and upon the assumption there is no further evidence to be offered on the life of the field, I desire to consult with Dr. Boatright. I intend to retain Dr, Boatright here to give evidence to the Commission on the, what I call for lack of a better word, the accounting phase of the pipe line case. I want to have further conferences with Mr. Kenneth Morrison, who has been retained as the Chief Accountant to the Commission, and advising myself in any event with respect to the accounting part of the work.

THE CHAIRMAN: If I may interrupt, are we to understand that the evidence of the accountants is all that you have in contemplation?

MR. FRAWLEY: No.

THE CHAIRMAN: There will be other evidence in connection with the pipe line?

MR. FRAWLEY: The existence of the markets for present crude, the matter Mr. Harvie touched on yesterday. There will be some evidence as to whether the present pipe line facilities are adequate and efficient. Some general evidence of that kind. There will be some rather involved evidence by two sets of accountants, the Royalite Oil Company and my own.

THE CHAIRMAN: And I suppose evidence as to the

so-called through put and what is to be anticipated in future and all that sort of thing?

MR. FRAWLEY: Yes, the matter that Mr. Harvie dealt with yesterday.

THE CHAIRMAN: What I want to make clear is, that so far as this Commission is concerned, its report in respect of pipe line matters will not be an interim report as suggested yesterday, but it will be a final report. So every matter which has to do with pipeline matters should be now followed up and every possibility explored and disposed of, because our report is going to be final. We are going to be through with this phase of the Inquiry.

MR. FRAWLEY: That is my understanding. When I call it the accounting phase of the Inquiry, that is what it will chiefly concern itself with, but these other matters which are quite important and essential will certainly be put in evidence before you. I think it would be advisable that I would ask you that I be given as much time as from now until Thursday morning.

THE CHAIRMAN: Do you mean Thursday morning?

MR. FRAWLEY: Friday morning. I would ask that we adjourn for the balance of today and tomorrow and resume on Friday morning. I quite agree that is the last day of the week, but so far as our needs are concerned, and I am putting it on the ground I will really need that time to prepare ourselves for that part of the evidence, since Dr. Boatright has been concerning himself exclusively with the life of the field, and I wish to use him in the other part of the

case. I do not like to ask for any more adjournment than Friday morning. I think we can put in a useful day on Friday.

THE CHAIRMAN: What do you say, Mr. Nolan?

MR. NOLAN: There is little I can say, except we have gone to some trouble and are under certain expense in keeping people here who are interested in this phase of it, namely our accountant from Toronto. We cannot say to the Commission if time is required by Commission Counsel to discuss such matters, with Dr. Boatright, that it has to go on, and that there is no reason for an adjournment. We would not take that attitude. We say that if Commission Counsel says to the Commission time is necessary, it follows that time is necessary. We will keep our witnesses here, and they will be ready to go on when the Commission again convenes.

THE CHAIRMAN: I think your position is a very fair one. What do you say, Mr. Fenerty?

MR. FENERTY: Whatever direction the Commission makes is satisfactory to me.

THE CHAIRMAN: Any objections? The application will be granted. We will adjourn till Friday morning at 10:30 o'clock.

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H. J. FRAWLEY.

The Province of Alberta

IN THE MATTER OF THE PUBLIC
INQUIRIES ACT

Morrison

—and—

IN THE MATTER OF a Commission, dated the
12th day of October, A.D. 1938, to inquire
into matters connected with Petroleum
and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta JANUARY 13th, 1939

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I N D E X

PAGE.

VOLUME 14 - January 13th, 1939.

WITNESSES:

Discussion and filing Exhibits . . . . 2001.

Samuel Coultis - recalled. . . . . 2004.

Clarence Moore - recalled . . . . 2007.

Thomas Humphries . . . . 2025.

Kenneth J. Morrison 2030. 2068

Stanley J. Davies-recalled . . . . 2042.

E X H I B I T S

"76" - Copy telegram January 10th, 1939, G. H. Smith Toronto, to H. G. Holan, Calgary, in full 2002.

"77" - Copy telegram H. H. Bronsdon, British American Oil, Toronto, to Eric L. Harvie, dated January 10th, 1939, in full 2004.

"78" - Map showing storage tanks at Turner Valley end of Pipe Line, produced by witness Coultis 2005.

"79" - Statement produced by the witness Moore showing stocks of petroleum products held in storage at the Imperial Oil Refinery, month by month 2009.

"80" - Statement produced by the witness Moore, showing date of construction, original cost and capacity in barrels of tanks 3, 4 and 8, (rented from Imperial Oil) 2009.

"81" - Statement produced by the witness Moore showing degradation of Turner Valley crude naphtha passing through pipe lines. 2020.

"82" - Statement produced by the witness Moore showing degradation of Turner Valley absorption naphtha. 2021.

"83" - "Jersey Statements" produced by the witness Humphries, being extracts from statements prepared by Royalite Oil Company at the end of each fiscal year, for the year 1933. 2028.

"84" - "Jersey Statements" for the year 1934. 2029.

"85" - "Jersey Statements" for the yesr 1935. 2029.

"86" - "Jersey statements" for the year 1936. 2029.

I N D E X Cont'd.

EXHIBITS.		Page.
"87" -	"Jersey Statements" for the year 1937	2029.
"88" -	Report prepared and presented by the witness Morrison.	2031.
"89" -	Statement showing operating results for years 1931 to 1937, inclusive, of the Royalite Oil Company, and as to royalties and dividends paid and the equity of the Imperial Oil in the earnings of the Royalite Oil Company.	2069.

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Friday, January 13th, 1938.
10:30 A. M. Session

THE CHAIRMAN: Is Mr. Davies here?

MR. NOLAN: He is not here, my Lord.

THE CHAIRMAN: I want to ask him one or two questions. I wonder if you could have him here this afternoon?

MR. NOLAN: It is sometimes difficult to get in touch with them. They go to the field in the morning and it is difficult sometimes to get them, but we will telephone right away.

THE CHAIRMAN: Any time which is convenient to him.

MR. NOLAN: I will send word at once.

MR. FRAWLEY: Well I want to first, Mr. Chairman, put in the translation of a telegram from Mr. G. H. Smith, from Toronto, the President of the Imperial Oil, to Mr. Nolan. I take it that it came in code. It is dated the 10th of January, 1939. I want this to serve as a basis for the evidence of Mr. Morrison. I want it for what is contained in it. Now of course that is very much secondary evidence.

MR. NOLAN: No objections.

MR. FRAWLEY: If my friend has no objection I would like to have the wire in for what it says.

THE CHAIRMAN: If you will just read the wire.

MR. FRAWLEY: Yes, I will read the wire. It is to H. G. Nolan, Calgary, and I might say it has to do with that Exhibit 29, that Agreement between the British American and the Royalite Oil Company. The telegram reads as follows:

"TO: H. G. Nolan, Calgary. DATE: January 10, 1939.
FROM: G. H. Smith, Toronto.

Your telegram 9th received this morning, rate of 22½¢ per barrel referred to in article 10 of Royalite-British American pipeline contract was not modified by any formal agreement but reduction to 17¢ and later to 15¢ given to all other transporters was at same time extended to B. A. irrespective of terms of contract (Stop) Article 9 was inserted in contract as necessary protection to Royalite Oil Company, but when British American was unable to take care of its purchase committments we afforded storage facilities in order maintain normal field operations (Stop) No formal agreements were made covering same (Stop) When Lion Refinery was in somewhat similar difficulty we arranged for taking over of their oil (Stop) You will appreciate that our attitude in these matters has been one of cooperation in order to keep operations of field pipeline and refineries functioning normally according to conditions arising from time to time."

(TELEGRAM PRODUCED HERE MARKED AS EXHIBIT "76")

THE CHAIRMAN: Now that Exhibit "76", that has reference to.

MR. FRAWLEY: To Exhibit "29" which is the Royalite-British American contract. Now then covering it from the angle of the other company, the British American Company, I would like to put in this telegram to Eric L. Harvie, from H. H. Bronsdon, who is the Secretary and the Comptroller. These are only copies of course.

THE CHAIRMAN: By whom is the telegram sent, I mean the first telegram which is now marked Exhibit "76"?

MR. FRAWLEY: Mr. H. G. Smith.

THE CHAIRMAN: Mr. Nolan might tell us who Mr. Smith is.

MR. NOLAN: He is the Chairman of the Board of the Royalite Oil Company.

MR. FRAWLEY: Now the next I have is a copy of a telegram, dated the 10th of January, 1939, to Eric L. Harvie who I may say is the Solicitor in Alberta for the British American Oil Company, from Mr. H. H. Bronsdon, who, I may say, is the Secretary and Comptroller of the British American Oil Company, that is right Mr. Harvie?

MR. ERIC HARVIE: Yes.

MR. FRAWLEY: I will read the telegram.

" TORONTO ONT 10 1939 JAN 10 PM 4 34

ERIC L HARVIE
CANADA LIFE BLDG CALGARY

RETEL PARAGRAPH FOUR EXPERIENCE SATISFACTORY CRUDE HAS BEEN MADE AVAILABLE AT CALGARY WITHIN THE PERIOD ALLOWED STOP PARAGRAPH SIX HAVE HAD NO DIFFICULTY WITH PIPE LINE RE TAKING OIL FROM VARIOUS WELL TANKS NO LOSSES EXPERIENCED OTHER THAN PROVIDED BY CONTRACT STOP PARAGRAPH EIGHT CHANGED TO ONE PERCENT ALLOWANCE CRUDE OIL AND CRUDE NAPHTHA STOP PARAGRAPH NINE SHOULD BE READ IN CONJUNCTION WITH CLAUSE FOUR IN REFINING AGREEMENT WHICH READS QUOTE IMPERIAL AGREES SUBJECT TO THE PROVISIONS HEREOF TO PROVIDE SUFFICIENT AVAILABLE STORAGE AT ITS CALGARY REFINERY TO RECEIVE CRUDE OIL NAPHTHA OR ABSORPTION GASOLENE FROM BA AT

"ANY TIME AND IN ANY QUANTITY THAT THE PIPE LINE TRANSPORTER OF BA MAY DELIVER UP TO A MAXIMUM CAPACITY TO RECEIVE SIX THOUSAND BARRELS PER DAY FOR TEN CONSECUTIVE DAYS STOP SHOULD IMPERIAL AT ANY TIME BE UNABLE TO ACCEPT DELIVERY AT ITS CALGARY REFINERY OF BAS OIL FROM THE TRANSPORTER IMPERIAL WILL PROVIDE STORAGE FOR SAID OIL ELSEWHERE UNQUOTE STOP PARAGRAPH TEN THE PRESENT PIPE LINE RATE IS FIFTEEN CENTS PER BARREL STOP NO OTHER CHARGES"

'H H BRONSDON'

(TELEGRAM FROM MR. BRONSDON TO MR. HARVIE HERE MARKED AS EXHIBIT "77").

MR. FRAWLEY: I might say, Mr. Chairman, that directly we received a copy of that telegram we asked for the refining agreement, what is referred to as the refining agreement, between the B. A. and the Imperial, that it be sent out by air mail and that is now on its way by air mail and we will file that refining agreement directly it has arrived. Now I am calling Mr. Coultis just for a moment.

SAMUEL COULTIS, having been recalled, examined by Mr. Frawley said:

Q Mr. Coultis, you are still under oath?

A Yes.

Q I show you a map and will you describe that map to the Commission please?

A Mr. Frawley asked that this map be exhibited for the purposes of identifying storage tanks at the Turner Valley end of the trunkline only.

THE CHAIRMAN: Just a minute, if it will be pertinent it should be now marked as an exhibit. It will be Exhibit "78".

(MAP PRODUCED BY THE WITNESS
COULTIS HERE MARKED AS
EXHIBIT "78").

WITNESS: May I say, sir, this map is not in the detail of these other maps. It is an older map of this area of the field. Part of the lines and tanks are dotted lines, which indicate those lines and tanks did not belong to the pipe line division. A map now is in preparation showing only the equipment of the pipeline division. That map can be presented later but it is now under preparation.

Q THE CHAIRMAN: When do you expect to have it completed, Mr. Coultis?

A It will be sometime next week. There is a lot of detail work on it. I did not know that this map was expected. This tank is a 55000 barrel riveted tank.

Q MAJOR LIPSETT: Mr. Coultis, would it be possible to mark them with a letter or something so that we could check them when we are reading the evidence again?

A I can take this map back if I would be permitted to and insert each tank in on different colours in red if that would help, sir.

MAJOR LIPSETT: That is hardly necessary.

Q MR. FRAWLEY: You mean each tank.

A Belonging to the pipeline division.

Q Yes, because on this map there are tanks, storage tanks belonging to the Royalite Oil Company which are not your responsibility?

A Yes.

Q As a pipeline department?

A Yes.

Q I think that would be a good idea.

A It is not a good map to present as an Exhibit as it has other stuff on.

Q As you proceed with (a) the big tank, you might just letter them, "A", "B", and "C", that would perhaps answer just as well for now.

A All right, we will start with the 55,000 barrel tank as letter "A"; the 20,000 barrel tank "B"; "C" is a 10,000; "D" 5,000; "E" 5,000; "F" 5,000; "G", "H", "I" are all 2,000; "J", "K", "L" are all 2,000 riveted tanks; "M" is a battery of 13-580 barrel horizontal pressure-storage tank. I believe that completes the tanks.

Q And all of the tanks which you have enumerated and lettered are maintained and operated by the pipeline division of the Royalite Oil Company?

A Yes.

Q In connection with the operation of its pipeline.

A Yes.

Q Its gathering system and its pipeline?

A Yes.

Q Are some of the tanks, if that is important, are some of tanks allocated only for use for crude oil and some for plant product?

A Yes.

Q That is just a matter of operating convenience, that is you do keep those products separate?

A Yes, it is necessary to keep each product separate.

Q I do not want to go back to Mr. Coultis' evidence, when he told us so much very fully about the way the crude is moved. That is all I want, Mr. Coultis. Thank you very much.

THE CHAIRMAN: Any questions?

MR. NOLAN: No, my Lord.

THE CHAIRMAN: I suppose you may still want this better map of which Mr. Coultis speaks?

MR. FRAWLEY: Yes, we would be very glad to have it.

THE CHAIRMAN: When will you have it ready, Mr. Coultis?

MR. COULTIS: By the middle of next week, sir.

MR. FRAWLEY: The next witness, I want to recall Mr. Moore.

CLARENCE MOORE, having been recalled, examined by Mr. Frawley, said:

Q I show you some statements which I believe were prepared under your direction or in your office and can you just describe those to the Commission so that I can file them.

A This is the statement showing the total stock of crude on hand covering 23 months, the year 1937 and up to and including December 1st, 1938.

Q It is a statement of the crude stocks on hand at each month-end beginning January 1st, 1937 and ending December 1st, 1938?

A That is correct.

Q And divided into Turner Valley crude oil, Turner Valley separator naphtha and Turner Valley absorption naphtha, and I see the word "net stock" in brackets after each of those descriptions, was does that mean?

A That means we do not count the water which might be in the bottom of the tank or the pipe included in the tank.

Q MR. FRAWLEY: I offer that.

A Now this---

Q MR. FRAWLEY: I see, then there is attached a short sheet to the statement you have referred to and what is the attachment?

A The attachment gives the date of construction, the capacity in barrels and the original cost of the three tanks used by the pipeline company, all of which I can affirm to except the cost of the tank.

MR. FRAWLEY: This statement, my Lord, is a brief statement showing the tank, giving the same data with respect to tanks 3, 4 and 8, and those are the tanks you have rented to the Royalite Oil Company?

A Correct.

Q Tank number 3, date of construction June, 1926, original cost $51,163.15, capacity in barrels, 80,088; tank number 4, date of construction, June, 1926, original cost $51,153.16, capacity in barrels, 80,070; tank number 8, date of construction September, 1924, original cost $41,402.88 and capacity in barrels 42,000 barrels.

A All of which I can verify except the cost.

MR. FRAWLEY: I really think they should be separate.

THE CHAIRMAN: Yes. Are you otherwise cer ifying the cost, Mr. Frawley.

MR. FRAWLEY: Yes. This witness cannot verify the cost.

THE CHAIRMAN: All right, we will take that first sheet.

Q MR. FRAWLEY: I am told that this cost came by telephone from Mr. McCloskey?

A Yes.

MR. FRAWLEY: Perhaps Mr. Nolan can help us.

MR. NOLAN: It is not a matter within his own knowledge. He was so informed from Toronto and he provides that to the Commission, through him that evidence goes in.

THE CHAIRMAN: And you consider the cost there represented as being exact.

MR. NOLAN: Yes.

THE CHAIRMAN: Then the first sheet will be Exhibit "79"?

(STATEMENT SHOWING STOCKS OF PETROLEUM PRODUCTS HELD IN STORAGE MONTH BY MONTH HERE MARKED AS EXHIBIT "79")

THE CHAIRMAN: And the other sheet will be Exhibit "80"?

(STATEMENT SHOWING DATE OF CONSTRUCTION, ORIGINAL COST AND CAPACITY IN BARRELS OF TANKS 3, 4 and 8 HERE MARKED AS EXHIBIT "80")

Q MR. FRAWLEY: Mr. Moore, now so much for that---

THE CHAIRMAN: Before you leave that, are these the three tanks which refer to the rental of which we have heard, as being paid by Royalite to Imperial?

MR. FRAWLEY: Just so, my Lord.

THE CHAIRMAN: You might find that out.

Q MR. FRAWLEY: Are these the three tanks with respect to which the $35,000 per year is being paid?

A Correct.

Q Well it is suggested to me, Mr. Moore, that you might be good enough to look at these statements and I will just call your attention to some things about them. Dealing with Turner Valley crude oil, Mr. Moore, you will see that each and every month included in the statement from January 1st, 1937 to December 1st, 1938, you are holding sizeable quantities of oil, or at least these tanks are holding, yes, you are holding in your refinery yard, very considerable oil for Imperial Oil Limited, something each month?

A Yes.

Q And that so far as the British American,- there are only two other people or companies for whom you did hold any oil in storage, the British American and the Lion Company?

A Yes.

Q And you will see you did not begin to hold any storage, any

oil in storage for the British American until July, 1937 and on that date you held 2133 barrels and then in August you held 3000 and some and in September 4000 and some and in October 1937, 4000 and some, in November 4570 and in December 1937, 4680. Then in January 1938, you held 4921, and then you did not hold any oil in storage until August 1st, 1938. Perhaps you might tell me why that was so?

A Because their oil was used up.

Q Their oil was used up?

A Yes, it was either shipped to Moose Jaw or we had run it.

Q Then were you doing custom refining for them in the month of February, 1938, and March and April?

A Oh yes.

Q And May and June and July?

A Yes.

Q But their oil came in right from the pipeline into your refinery and you processed it?

A We processed it.

Q Very quickly, without putting it in storage you mean?

A Yes.

Q And then---

A Well we held it in the tanks, Mr. Frawley, you know.

Q But you didn't store it?

A You mean they have not any left at the first of the month?

Q Yes.

A That is a different question from the way you put it.

Q Anyway I am glad to have that explanation, What you say now is that in these months of February, March, April, May, June and July of 1938 you had storage in the tanks for the British American Oil Company, but on stock-taking dates, the

first of the month, you did not have any?

A Sure, that is right. The pipeline is not hooked to the still.

Q No, the pipeline does not run into the still?

A No, that is right.

Q You have no way of telling us that, perhaps it is not important, but would your records permit you to say, I suppose you would have to get down then to a monthly statement, or a statement for each day of the month to show what oil you held in storage for them, it could be done of course?

A It could be done.

Q And then on the 1st of August, 1938, you held 52,222 barrels?

THE CHAIRMAN: Was there a charge made for it during the month?

MR. FRAWLEY: There is no charge at all, you see.

THE CHAIRMAN: No, that is right.

MR. FRAWLEY: No charge at all.

Q MR. FRAWLEY: And on the 1st of September 1938, you had 39,793 barrels and then since the 1st of October, at least on the 1st of October, 1938, and on the 1st of November 1938, and on the 1st of December 1938, your records show you had no crude oil for them?

A Only on that date, on that date.

Q On those dates?

A Yes.

Q And the same thing applies to that?

A Yes, either it has been shipped or processed.

Q Now dealing, that is your experience as to storage held for the British American Oil Company as to crude oil and there is no use of going over the other statements although the separator naphtha statement shows you only held for them on

one day, on one stock taking date anyway, the first of June, 1937 you held 147 barrels and the statement is blank for the other dates, and then coming to the last classification, Turner Valley absorption naphtha, you only held stock for them on three dates?

A Four.

Q On four dates?

A Yes.

Q The 1st of June 1937, 338 barrels; the 1st of October 1937, 4109 barrels; the 1st of November 1937, 1211 barrels; and on the 1st of September 1938, 747 barrels. By the way, before we go on to the Lion Company, Mr. Moore, it looks like a stenographer's error here, you see "March 1st, 1937?"

A I just noticed it.

Q That should be "1938"?

A Yes.

THE COURT: Mr. Frawley, we are coming back to absorption naphtha and it is sometime now since we were going to get a glossary of that, how are you coming along?

MR. FRAWLEY: It is sometime since I have spoken to my very able assistants but we are going to get that done some time.

(Page 2013 follows)

Q MAJOR LIPSETT: Those two months of August 1938 and September 1938, was there some apecial reason for that or was that just because of the heavy through put that was going through in those months?

A Without being able to definitely make a statement on that, possibly their receipts were larger than their takings.

Q That seemed quite an exceptional difference in those two months?

A Yes. Well as a matter of fact we were not processing quite so much for their account here, and then their takings might be larger at Moose Jaw.

Q MR. FRAWLEY: Just going back to the question the Chairman asked you a few moments ago, and I want to have it definitely on the record if you can tell us, was that a charge made by the Imperial Oil or by the Royalite if you know? I know the danger of taking you men out of your own department?

A I know of no charge that was made by the Imperial.

Q Either under the contract Exhibit "29", which is of course, between the British American and the Royalite, are you able, as a director of the Royalite, to tell us?

A I cannot. I have not got the information.

Q Do you know of any charge that was made by the Imperial to the British American for holding of any stock in storage?

A No, I do not.

Q Now, passing to the Lion Oil Company, we find, it is just short, three days on which you had oil in storage

for them in how many months?

A 23 months by the looks of things.

Q On May 1st, 1938, 2,240 barrels of crude held in storage for Lion Oils Limited, on June 1st, 1938, there is an indication in red ink of 32 barrels, which means that you owed the Lion Oil Company 32 barrels at that time, is that so?

A No, I would say they owed me 32 barrels.

Q Oh yes, of course.

A I would charge them up for 32 barrels of oil.

Q The regular figures are the stock which you are holding for them?

A Yes.

Q And this red ink would mean that they owed you 32 barrels? December 1st, 1938, 2,790 barrels?

A Correct.

Q That is just between five and six thousand barrels? Can you tell me whether any charge was made to the Lion Oil Company for holding in storage this oil shown on this statement?

A There might have been if we had not purchased this 2,790 that was held on December 1st, 1938.

Q You say there might have been some charge if you had not purchased that oil. That was purchased by the Imperial?

A Yes.

Q Mr. Plotkins wrote you asking you to please do that for him?

A Yes, he wrote us asking us to do that.

Q But otherwise he would have been charged?

A I do not know what anybody else would have charged him, I know I would not, but somebody else might.

Q Over at the Royalite?

A Yes. It would not be us.

Q Then why not treat him just the same as the British American?

A I cannot answer that because I am not familiar with their pipe line contract.

Q Now without going back on anything we have covered, will you tell us about - perhaps you have, did you tell us when you were here in December about this, that charge to the Lion Oil Company about that transfer charge, I think the statement was that there was a charge of 6 cents?

A Any oil we delivered to the Lion Oil Company at their station is by pipeline, and for that service, we own the pipe line, and we charge them 6 cents a barrel. For any oil that we load on account of the Lion Oil Company for transportation, we charge them 5 cents. loading charge.

Q If there is oil in these tanks belonging to the Lion Oil Company, and you have to bring that and load it into tank cars to ship, do you mean there is a charge of 5 cents a barrel loading charge?

A The same as we charge everybody.

Q If the Lion Oil Company had oil transferred to its plant you charge them 6 cents?

A Correct,

Q And when you load that oil into tank cars for the British American, which they ship to Moose Jaw?

A Yes.

Q How much is the loading charge you make to them?

A We have only one loading charge.

Q Five cents?

A Correct.

Q The British American just pays the 5 cents for the loading charge?

A Yes.

MR. COMMISSIONER LIPSETT: Would you find out exactly what that loading consists of?

Q MR. FRAWLEY: Would you tell the Commission what you do for that 5 cents?

A We take that oil from a tank and deliver it by pump into tank cars.

Q You bring the tank car - the railway track runs quite close to your storage tanks?

A It would not make any difference whether it ran close or not. We bring the oil to the tank car. It might be a distance of 500 feet or 500 miles.

Q How do you do it?

A Down there it could not be probably over half a mile. We do that by pump, pipes and pumps.

Q You do not take it out in tank trucks?

A No, nor do we flow it out. We pump it out.

Q You have to get it under some kind of pressure to put it into the tank cars.

A Correct.

Q MR. COMMISSIONER LIPSETT: And how much is the actual distance?

A It would depend, Sir, on the tank we were pushing it out of, just what it might be. As far as the tanks

and tank cars, the position would probably be within half a mile of the same spot. We have two different loading racks at which this is done, and they are not just side by side, and the tanks could be anywhere on the area of the property that we are using and there is some, well offhand I do not want to make any estimation just how far they are apart, but a matter of many hundred feet. They all have to come to the one pump house, but separate lines from this tank. So that the distance would vary considerably as to where they might be,

Q MR. FRAWLEY: By the way, Mr. Moore, the outline has only three tanks there, tanks 3, 4 and 8.

When you get an order to load some crude for the British American to bring to its Moose Jaw refinery, do you take it out of - are you careful to take it out of only tanks 3, 4 or 8?

A I may take it out of other tanks, but that would be my convenience, Sir.

Q That is exactly the same as you said the other day about taking it out of this common crude, and you draw whichever crude you think fit?

A Yes.

Q When you move oil to the Bell Refinery, which lies somewhere near the Lion Oil Refinery, doesn't it, do you use that Regal pipeline to move the oil to the Bell Refinery?

A That happens to be the two lines, Sir, that we do use. The old Regal lines. Those are the Regal lines we use.

Q Do you use that to move the oil out to the Bell Refinery which lies alongside the Lion Refinery?

A Yes.

Q And what charge do you make for that?

A 6 cents per barrel.

Q It is quire clear, Mr. Moore, that is the charge that is made by the Imperial Oil Company and not by the Royalite Oil Company?

A That is correct.

Q That is the revenue of the Imperial Oil Company?

A Yes.

Q You do not know what revenue you are credited with when you do the loading for the Imperial Refinery at Regina?

A Yes.

Q You do know about that?

A Yes. It is the same charge.

Q You get 5 cents? Your plant out there gets 5 cents in the books from the Company for moving oil to that Regina Refinery?

A Yes.

Q Now, Mr. Moore, you were also asked to come today and tell the Commission something about the matter of degrading of the product which Mr. Coultis dealt with last month. Would you be good enough just to make your statements?

A I was requested by Mr. Cottle to furnish two statements, and they are here, Sir. The first one will be the Degradation of Turner Valley Crude Naphtha at Calgary Refinery,Due to Line Washing, Expressed in Barrels, by Months.

Q This is a statement which is dated January 12th, 1939,

Refinery, Due to Line Washing, Expressed in Barrels, supplied Mr. Cottle. To give you an idea of it, Mr. Chairman, I will read one line. January 1938. Turner Valley crude naphtha pumped 3,811 barrels; Turner Valley crude naphtha received 2,575 barrels and degraded to Turner Valley crude oil.

A That is Turner Valley crude oil.

Q Degraded to Turner Valley crude oil 1,221 barrels. Take that one line and just tell the Commission what that means in just simple language?

A In changing over from crude oil, Sir, to this other product.

Q Naphtha?

A Turner Valley crude naphtha, it takes so many barrels to fill the line. That means that we are pushing out approximately so many barrels of oil between the Turner Valley terminal and the terminal at the Refinery, and by watching the line and determining by, in this particular case it would be gravity would be the best thing to find out when the change had been made sufficiently clear in percentage so that you could call it Turner Valley crude naphtha and we should then divert the line to the Turner Valley crude naphtha tankage line, to the crude oil tankage. The same thing takes place when Turner Valley crude begins to push out of the line to Turner Valley crude naphtha. So that any degradation would be into the crude oil storage tank.

Q Well you mean the degraded product?

A Would then go into Turner Valley crude.

Q So that it means in the month of January 3811 barrels

of Turner Valley crude were pumped and received by you, 2575 barrels of Turner Vallgy naphtha were received by you.

A Just let me give you this. We pumped Turner Valley crude naphtha 3811 barrels at Turner Valley.

Q At Turner Valley, yes?

A We received as Turner Valley crude naphtha 2575 barrels.

Q Yes?

A And 1221 which makes up the difference, being the degraded amount.

Q Of that particular product you call?

A Well it would be in with our Turner Valley crude. This other is absorption.

Q THE CHAIRMAN: Would that have the effect of making some elevation in the value of Turner Valley crude?

A Incidentally it might affect the number of operations with Turner Valley crude naphtha too, Sir.

Q MR. FRAWLEY: In the refinery?

A In the refinery.

Q THE CHAIRMAN: Making too a more expensive product, do you mean?

A Well it might make it more expensive. You might have higher losses in your operations. That is you may have to take stock on a different tower of operations to obtain your results.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "81".

Q MR. FRAWLEY: You have another statement?

A This covers the other production, absorption naphtha.

Q It is dated 12th January, 1939, Degradation of Turner Valley Absorption Naphtha at Calgary Refinery, due to Line Washing, expressed in barrels, supplied Mr. Cottle. The first item is January 1938. Turner Valley Absorption Naphtha pumped 44,419, and on hand in line 1st of month 2,498. Turner Valley Absorption Naphtha received 42,780, and on hand in line last of month nil. Degraded to Turner Valley crude naphtha 3,980. Degraded to Turner Valley crude oil nil, and your statement goes on.

DOCUMENT IN QUESTION IS NOW MARKED EXHIBIT "82".

THE CHAIRMAN: We are now speaking of crude naphtha and absorption naphtha. I really think and am speaking quite seriously that we should straighten out this thing, otherwise the withesses will be talking about perhaps the same thing by different names.

MR. FRAWLEY: Before the witness leaves - this is the first time I have seen that expression, Turner Valley absorption naphtha, is that plant product?

A That is plant product. I would probably call it absorption naphtha, but you would be interested in plant product.

THE CHAIRMAN: We will have to try and agree on some of these things.

Q MR. FRAWLEY: Mr. Moore, is there any volume loss on this in connection with this degrading in any event?

A As far as degradation goes, no sir.

Q What is the breaking point at which you determine which product it is, in gravity?

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

A In the case of absorption naphtha it would be a combination of gravity and colour.

Q A combination of gravity and colour?

A Yes .

Q Will you just state what gravity?

A Well you would not want anything in your gasoline less than 25 saybolt.

Q What about gravity?

A The gravity would probably be degraded a few degrees, but still have 25 colour.

Q Can you give Dr. Boatright an idea?

A No, I cannot because sometimes the gravity of your absorption is different. You might be getting an 82 product or an 86.

Q From Exhibit "81" someone else has noticed for me, there is no degrading after May 1938?

A No shipments, Sir.

Q Now you have told us about the gasoline. Will you give us that break-off in connection with naphtha?

A In that case possibly we would use gravity for a quick determination.

Q And then what would be your guiding gravity there?

A That would be according to what it was running, Sir. If you will look over the Turner Valley separator naphtha or the crude haphtha, you will find gravities coming to almost 210° Baume.

Q And still within that range it is called......

A Separator naphtha. Within that range. So that would be determined more particularly by the gravity of the shipments made at the Valley that particular time.

Q THE CHAIRMAN: Separator naphtha?

A That is Turner Valley crude naphtha, the same thing, Your Honour. I think that is more properly the term that should be used as it defines where it comes from.

Q DR. BOATRIGHT: Mr. Moore, with reference to this naphtha that we were speaking about, how much degradation in gravity do you allow or do you allow any at all from the shipping?

A You determine quite a bit. You would not want any wax in it, Doctor, into the separator naphtha.

Q I realize that. Do you have any control, or do you just leave that to the judgment of the men who are making the switch?

A Well we have sight control and the colours are quite a bit different at which we are quite satisfied to turn it in. In my experience I find sometimes the degradation, that is that we can afford to turn into the separator naphtha we will say a degradation of 2° of Baume. However, that is something that is now out of the market, and it really probably won't affect us again.

Q I realize that but I just wanted your information to find out about it. You said Baume, do you mean Baume or A.P.I.?

A A.P.I. Baume.

Q MAJOR LIPSETT: Just so that I can understand, looking at Exhibit "81" for the moment, just to get an explanation of it?

A Surely.

Q The first figure there is "Turner Valley crude", amounting to 3811 barrels?

A Yes.

Q That was brought from the wells, I suppose, in Turner Valley?

A That was brought from the gas-cap wells, sir.

Q Gas-cap wells?

A Yes.

Q Well, then, that I suppose, is a higher price than the crude oil?

A Yes.

Q When that comes up to the refinery, the gas-cap wells are credited for 2575 barrels?

A No, sir, my tankage got credit for 2575 barrels.

Q Of naphtha?

A Of naphtha.

Q That again in turn, I suppose, is credited back to the wells?

A No, that was purchased in Turner Valley.

Q Well, what I was wanting to get at was, is this 3811, the original figure, are the wells paid for that as crude naphtha?

A Yes.

Q The full price?

A Yes.

Q Who takes the loss then on those 1221 barrels which is degraded?

A The refinery.

Q I see?

A Is that all, sir?

MAJOR LIPSETT: Yes, I just wanted to get that.

Q DR. BOATRIGHT: Have you any idea of the cost, due to the degradation which occurs?

A I have not, I have not tried to work out anything like that.

Q And you make no attempt to correct for that loss in any way in your operations?

A No, it is just in the operation.

Q In other words, you take that as a loss in your over-all operations?

A Yes.

Q And never segregate it?

A That is correct.

MR. FRAWLEY: I will call Mr. Humphries.

....

THOMAS HUMPHRIES, having been first duly sworn, examined by Mr. Frawley, said:

Q Mr. Humphries, you are the manager at Calgary for Price, Waterhouse & Company?

A Yes.

Q Chartered Accountants?

A Yes.

Q And auditors for the Royalite Oil Company Limited?

A Yes.

Q And its subsidiaries?

A Yes.

Q And for the Imperial Oil Limited?

A Yes.

Q And its subsidiaries?

A Yes.

Q Now, I am showing you some statements which you were good enough to supply us at our request, Mr. Humphries, and will

you take the statements as I now hand them to you and describe them to the Commission fairly briefly and concisely?

A These are extracts from statements prepared by Royalite Oil Company Limited at the end of each fiscal year, which are called the "Jersey Statements". They are prepared in great detail by the Royalite Oil Company in both Canadian dollars and American dollars for the purpose of consolidating the Royalite Account with its parent company's account; these are extracts, these particular extracts that the Commission auditor wished us to file are classified "Trial Balandes" for the years ending December 31st, 1933, 1934, 1935, 1936 and 1937, and from memorandum statements prepared by the accountant of the company for the purpose of estimating the costs of crude oil and other products.

THE CHAIRMAN: You might take them one at a time.

MR. FRAWLEY: Yes.

Q MR. FRAWLEY: What you have in your hand relates wholly, I think, to the year 1933?

A Yes.

Q Will you just for the record then describe precisely what you are tendering, Mr. Humphries?

A In detail?

Q No, just repeat that description, please, and then we will mark it.

A The first statement tendered is called a classified trial balance, which is a list of the assets and liabilities classified under the different headings.

Q For what period?

A For the period ending December 31st, this is at December 31st, 1933.

THE CHAIRMAN: Now, Mr. Frawley, what I am getting at,

are you seeking to put in all of these 1933 statements as one Exhibit?

MR. FRAWLEY: As one Exhibit, because we have 1934, 1935, and so on. We will offer all of the 1934 statements and just count the number of sheets there are, please, for the record, and I believe that will do for our purpose.

A The number of sheets in the December 31st, 1933, statement, in the classified trial balance, three sheets.

Q Then there is something else there which is going in as part of that same Exhibit?

A There are six sheets altogether in this Exhibit.

Q In addition to being classified trial balances, the sheets are what?

A The second sheet here is a statement showing the quantity of crude oil and other products on hand, and the estimated cost, and the dollar value of all other inventories on hand as at December 31st, 1933.

Q That completes that?

A That completes the second statement. Now, the third statement...

MR. FRAWLEY: Mr. Morrison has a suggestion, Mr. Chairman, which, if you will agree, we will adopt, that the witness letter these as he passes from statement to statement, as we are going to put in the Exhibits, it might be well to letter them.

A Then we will call the classified trial balance "A".

THE CHAIRMAN: That consists of three sheets.

Q MR. FRAWLEY: Three sheets altogether under "A", Mr. Humphries?

A Three sheets under "A"; "A", "A1", and "A2". We will call

C2
5

the second statement the inventory quantities and valuations "B".

Q THE CHAIRMAN: What is it called again, please?

A That is, I explained it to be the quantities of crude oil and other products on hand with their estimated cost in value and the dollar value of all other inventories. Now, the third statement which I will identify as "C", just shows the income by departments from products and pipelines, for use in computing the cost of producing oil.

Q Very well, the next?

A The next statement, which will be called "D", this statement shows the direct and indirect expense accounts applicable to the cost of production and piping, showing application of expenses split by percentages, calculated on the basis of income by products.

Q That completes all of that Exhibit, does it?

A That completes the whole of the 1933 Exhibit.

MR. FRAWLEY: Then we offer the 1933 sheets as Exhibit "83".

(Sheets relating to year 1933 produced by the witness Humphries here marked as Exhibit "83".)

THE CHAIRMAN: And those have all been lettered by the witness?

MR. FRAWLEY: Yes, my lord.

Q MR. FRAWLEY: Now, will you do the same with this statement. Now, are you offering the same kind of sheets of statements with respect to the year 1934?

A These are similar statements for the year ending December 31st, 1934.

MR. FRAWLEY: I offer that, my lord, and we will mark that as Exhibit "84".

(Sheets produced by the witness Humphries for the year 1934 here marked as Exhibit "84".)

Q MR. FRAWLEY: Mr. Humphries, if you would be good enough to run through Exhibit "84" and letter them as you have done the others.

Q THE CHAIRMAN: The same number of sheets in this, Mr. Humphries?

A The same number of sheets exactly.

(Witness here letters sheets included in statement Exhibit "84")

Q MR. FRAWLEY: Now, I show you similar statements for the year 1935, they are similar, are they?

A Yes, these are the same.

(Sheets produced by the witness Humphries for the year 1935 marked as Exhibit "85").

Q If you would mark them, please, Mr. Humphries.

(Witness here letters sheets in statement Exhibit "85".)

Q I show you what appears to be similar statements for the year 1936, are they similar statements?

A These are similar statements.

(Sheets produced by the witness Humphries for the year 1936 here marked as Exhibit "86".)

Q You might be good enough to mark that now.

(Witness letters sheets of statement Exhibit "86".)

Q Now, are the sheets I am now showing you similar sheets for the year 1937?

A These sheets are similar sheets.

(Statements produced by the witness Humphries for the year 1937 here marked as Exhibit "87").

Q Will you please mark that also.

(Witness letters sheets, contained in statement Exhibit "87".)

MR. FRAWLEY: That is everything. Thank you very much. I will call Mr. Morrison.

....

KENNETH JOHN MORRISON, having been first duly sworn, examined by Mr. Frawley, said:

Q Mr. Morrison, you are a chartered accountant?

A Yes.

Q You are a member of the Alberta Institute of Chartered Accountants

A I am.

Q And you practise your profession where?

A In the City of Calgary.

Q How long have you been a chartered accountant?

A Since 1923.

Q Have you had some experience in the kind of work, the analysis of accounts and records of companies similar to what you have undertaken in this case, have you had work of that general nature before now?

A I have.

Q And have you from time to time been called upon to offer that evidence in courts of law and before Commissions of this kind?

A Well, not in connection with exactly the same kind of thing, pipeline rates.

Q Not in connection with pipeline rates, but in connection with the investigation of books of account for the purpose of obtaining certain material therefrom?

A I have.

Q And with reference to making submissions from those statements to courts and Commissions?

A I have.

Q Now, have you made an analysis of the books and records of the Royalite Oil Company for the purposes of ascertaining their experience in the operation of this pipeline and for the purpose of making submissions to this Commission?

A I have examined certain of the records of the Royalite Oil Company pertaining to the pipeline department of that company. I have not examined all of the records of the Royalite Oil, only those pertaining to pipeline operations, which is really just a department of this Company.

Q It was only the pipeline department of the Company that you were primarily interested in?

A That is correct.

Q And you confined yourself, therefore, to the pipeline department?

A I did.

Q And did you incorporate the results of your investigation into a report?

A Yes, I have.

Q And have you that report there now?

A Yes.

Q MR. FRAWLEY: I will now offer Mr. Morrison's report and have it marked as an Exhibit.

(Mr. Morrison's report produced and marked as Exhibit "88".)

Q MR. FRAWLEY: Now, Mr. Morrison, I think you had better proceed to make your submission to this Commission by reading your report and by making such interpolations as you think you should.

MR. NOLAN: Now, Mr. Chairman, it will facilitate matters greatly if I were supplied with a copy of this report.

MR. FRAWLEY: Yes, it certainly would.

MR. NOLAN: I have not had one yet.

(Copy of report handed to Mr. Nolan.)

MR. FRAWLEY: There are only eight pages in the report, but there are more than that, I mean the attachments?

A This report, Mr. Chairman, is addressed to Mr. F. G. Cottle, Chartered Accountant, Accountant to the Royal Commission on the Petroleum Industry, Calgary, Alberta, and it is dated the 9th of January, 1939.

"Dear Sir:

In accordance with your instructions, we have examined certain of the books and records of the Royalite Oil Company, Limited, for the purpose of obtaining information relative to the costs of gathering, handling and transporting oil in Alberta by pipeline. The specific matters under consideration are contained in the 'Programme of Enqqiry' as follows:

(b) Gathering, handling and transporting in Alberta by pipeline.

Cost. (1) (d)."

I do not know, sir, whether you wish me to read the detail, that is already done in the programme, which I think is in as an Exhibit.

Q Mr. FRAWLEY: No, I think you might as well read it, and it will be completely in the record then.

A Very well.

"Determination of the cost and to that and enquiry into the factors which are now and-or which ought to be taken into account in determining cost, including consideration of:

Capital investment in Alberta; (1) (d)

Operating costs; (1) (b)

Any other relevant costs; (1) (b)

Whether either with regard to capital investment or operating cost or any other cost any expenditure is

incurred or charges made which is either wholly or partially unnecessary or is not essential or is not in the public interest. (m)

Determination of what the fair and equitable cost should be.(d)"

THE CHAIRMAN: Mr. Morrison, before you proceed for the purposes of the record I think it should be made clear that what you have just read under the heading of "Gathering, handling and transporting in Alberta by pipeline" is taken from the programme, I think, produced to you by Commission counsel?

Q The lettering to which you have adverted at the end of every sentence or so has reference to the letters in the Commission itself?

A That is right, Mr. Chairman.

Q All right.

"Rates,(price) (1), (dl)

The rates charged for the gathering, handling and transporting from Turner Valley to Calgary;

Whether any charges made in respect of gathering, handling or distributing are excessive or unreasonable;

Whether any expenditure incurred in or incidentally to the handling, gathering or distribution is either wholly or partially unnecessary or which is not essential or is not in the public interest;

Profit or losses: (1)

What the fair and equitable rate should be. (dl)

We submit herewith the following statements which have been prepared from the material contained in the records of the Company, together with such other information which had to be obtained from other sources."

And those statements are enumerated.

"1. Comparative statement of cost of handling, gathering and transporting oil, in cents per barrel, at varying rates of return on invested capital for the nine months' period ended 30th September, 1938."

And for the purposes of convenience, Mr. Chairman, that statement is numbered 1, following the report.

"2. Summarized statements of revenue and expenditures for the years 1934 to 1937 and for the nine months ended 30th September, 1938, on the bases of depreciation of from five to thirty years and on the basis of depreciation as shown by the books."

Those statements for convenience are numbered from 2 to 5.

MR. FRAWLEY: It occurred to me, Mr. Chairman, you might like to do what I have done, and make a notation that the statements, the summarized statement of revenues you will find are sheets Nos. 2, 3, 4 and 5 in the attachments to Mr. Morrison's report, just as a matter of convenience. Perhaps if you start at the beginning, No. 1, that is No. 1, you will see what I mean, sir.

THE CHAIRMAN: Yes. No. 1 is No. 1 in the statement.

MR. FRAWLEY: Yes.

THE CHAIRMAN: But when you come to No. 2.

WITNESS: It comprises sheets 2 to 5 inclusive.

THE CHAIRMAN: They all come under the No. 2 in your report?

A That is correct.

WITNESS: No. 3 in the report is "Summarized statements for the above mentioned periods' that is for the years 1934 to 1937 inclusive, 'showing the return on capital invested",

and those are referred to as statements 6 to 9 inclusive. Item No. 4. "Individual detailed statements of revenue and expenditures (direct and indirect cost only) for the periods under review."

and those are the statements Nos. 10 to 21 inclusive.

"5. Statement showing details of administration cost."

And again for the same period, and that is statement No. 22.

"6. Statement showing details of invested capital as at 30th September, 1938."

And that is statement No. 23.

"7. Statement showing details of sundry assets as at 30th September, 1938."

And that is statement No. 24.

"8. List of charges, showing dates, for pipeline transportation."

And that is statement No. 25.

"9. Statement of oil movement by pipelines, showing deductions and line losses for the years 1933 to 1937 and the nine months ended 30th September, 1938."

And that is statement No. 26.

(Page 2036 follows).

THE CHAIRMAN: Throughout you fixed upon the 30th of September 1938. Are any records available subsequent to that?

A No, I will explain that, Mr. Chairman, in that when we commenced our work the period to the 30th was the last balanced period which was available to us, And therefore, the statement we had prepared on that basis. That is the only reason for taking that date in 1938.

Q Well now, when you are making your report in January, February or some time, one hopes January, you will be able to tell us whether there is any radical difference since that date or do we have to report as at that date?

A There is one factor that enters into all of these statements, and that is the lifetime that we are to use for the purposes of depreciation. If that were determined prior to any further figures being required, we could make a complete statement whenever the records are available for the year 1937.

Q MR. FRAWLEY: 1938 you mean.

A 1938, I am sorry, showing exactly what the position is for the whole of that year.

Q THE CHAIRMAN: What I am getting at is, when we come to make the present report, can we not get nearer than September 1938? It might not be because of the difficulties in connection with it.

MR. FRAWLEY: Perhaps Mr. Morrison could tell us. This is today

MR. NOLAN: Friday the 13th.

MR. FRAWLEY: The 13th of January, and are the records, have the Royalite Oil Company got their records complete up to the 31st of December

Kenneth Morrison.

1938, similar to the statements you have used up to the 30th of September, 1938?

A I do not know. The only inquiry I have made was in respect of pipe line losses. The day before yesterday I 'phoned and the figures were not available at that time. Yesterday afternoon I obtained a figure for the pipe line losses for the last quarter. These figures are made up. As to the rest of the other records, I have no knowledge just what position the accounts are in.

Q You only yesterday received the pipe line losses for the three months October, November and December, which you had not gone into or which were not available to you?

A They were not available to me and they were given over the telephone to me yesterday.

MR. NOLAN: It seems, my Lord, one of the difficulties arises out of the fact that the books are not closed until some time after the end of December 1938, and that occasions a delay until, I understand, about the middle of February, about February 15th before the books are completely closed and all the entries made. I suppose that is almost inevitable with a Company?

A Oh yes, it is quite the usual thing with a Company of this size, some time must elapse.

THE CHAIRMAN: I suppose Counsel might get in accord if it be in consonance with the truth that the deductions made in respect of the figures which will be the subject of discussion here, are relatively applicable to the following period with

respect to it, at the time we will be making our report.

MR. NOLAN: Yes. Of course, my Lord, all this evidence and these estimates that have been brought before you are based on 5,500,000 barrels of through put per year. Now experience alone will tell us what the through put is going to be in 1939 or 1940, and that is one of the real difficulties in this case, as I see it, and one upon which somebody must come to the assistance of the Commission, because I am sure they feel the difficulty as much as I do. It is simply this, if we go ahead at 5,500,000 barrels, and reduce it to 15,000 barrels per day, as being the market requirements, we are assuming and anticipating that will be the amount of the through put for the next year. Now we do not know, and it is very difficult to make any prognostication on what happened in 1938 as to what the requirements will be for the year 1939, because there is enough evidence here now for the Commissioners to know that such matters as the crop and purchasing powers of the people in the Western prairies has a great deal to do with the amount of crude oil that is required to be purchased and brought through this pipe line.
I am worried about that phase of it, because I do not see how I can be of assistance on that point.
It is something that Mr. Frawley and myself should take time to consider, because a moment ago the Chairman suggested we might be able to deduce from what has taken place what will take place, even between now and the date of the report on the

pipe line.

THE CHAIRMAN: No. We, of course, will have to make such inferences as we think we properly should, insofar as we have not direct evidence upon any particular point. But I did not mean that, Mr. Nolan. I am quite alive to the difficulties you mention. What I had in mind was this, the accountants apparently are prepared to state as at the end of September 1938. Now it occurred to me probabby there was no radical change between now and then, in this information which would make their inferences or conclusions wrong for present day calculations. Perhaps it would. But that is something, I suggest, Counsel and the accountants can give a little thought to. In short it may be indeed - and if so we will deal with it that way - we will have to predicate our conclusions upon the figure arrived at at September 1938. But if without too much trouble it could be brought up to the present or nearly up to the present, it is desirable or it is even desirable if the accountants can agree that no very different picture is presented in the meantime.

MR. NOLAN: I think perahps that is the way to do it. It is a matter of great difficulty to bring it up to date before the books are closed, and the entries made.

A It would be to the end of December, but I am wondering whether or not it would be possible, it would be possible to bring it up to the end of November. It would only leave one month.

THE CHAIRMAN: Then there seem to be two things

can be done, either bring it up to the end of November, the records being available to do it, or if the accountants agree there is no great difference or there is a great difference in the remaining period of the year. It will permit of our reporting to His Honour, as to present conditions instead as of September last, if there is no radical difference disclosed in the accountancy, and we would be speaking of things that are rather than in respect of matters that are past. If there is no radical difference it would simplify things greatly.

MR. FRAWLEY: It may be that the Oil Company, knowing our anxiety and knowing the point on which we need it, that they can do something to get in these entries which Mr. Morrison might desire - these indirect costs for instance - and close it up to the end of November.

MR. NOLAN: I do not know why it takes six weeks to close the books, but it does?

A Yes, that is not an unreasonable length of time for a Company of this size.

MR. NOLAN: It is not that we are slower this year than in any year before.

THE CHAIRMAN: I do not think there is any suggestion that you are not assisting the Commission all you can, but I suggest that some little thought be given to this. We would prefer not to report to His Honour as at the end of September last, if we can more nearly come up to the present time.

MR. FRAWLEY: You do not mean, Mr. Chairman, that there should be any delay in Mr. Morrison presenting

you with his conclusions as he has reached them now.

THE CHAIRMAN: No, not at all. I would suggest, since the Royalite accountants and bookkeepers know what has happened, even though they have not taken it off, may provide an accounting that they might be able to tell through their Counsel and to this Commission such inferences as you may see fit to draw - that is our responsibility what inferences we make - are as applicable at the end of December as they were at the end of September.

MR. NOLAN: Or are not?

THE CHAIRMAN: Or are not, as the case may be. Counsel have asked us to adjourn early today, so we will adjourn now until 2.30 o'clock.

....

[illegible]

……

2 P.M.Session

MR. NOLAN: Mr. Chairman, you intimated this morning there were one or two matters you would like to discuss with Mr. Davies. We have Mr. Davies here.

STANLEY J. DAVIES, having been recalled, examined by the Chairman said:

Q Mr. Davies, I took occasion to ask Mr. Link when he was recalled as to the impression he desired us to gather from his evidence as to the life of the field and I put it to him in this way that the effect of his evidence was that in his opinion the field had a life of two years certain, probably three years, but that there were some 10,000 acres that he did not take into account in expressing that opinion which might or might not prove to be productive in the matter of oil. Now Mr. Link replied that was exactly the impression he wanted to leave. Now whatever effect we may give to anyones evidence, we want to be very sure we understand it, and what I want to be clear on was, while your figures as to the life of the field agreed with his in the main, is it true that you too did not take into account this additional acreage which may or may not in your view be productive of oil.

A My Lord, I covered in my report the amount of additional acreage, some 13,000, in my evidence.

Q Yes.

A And in my evidence I indicated that my opinion was that the average production of that additional acreage which might be considered semi-proven, not yet drilled, would be in the amount of the average which I gave for the proven acreage, so I would include that, in considering the lifetime of the field dependent upon the rate of withdrawal and the rate of

drilling. There are additional barrels to be withdrawn from Turner Valley. The two unknowns are the rate of withdrawal and the amount of drilling that takes place, both essentials to arriving at how long that field will last.

Q Yes. Supposing the withdrawals were at the present rate, which has been put at 15,000 barrels a day, are you in a position to express an opinion as to that?

A May I ask my counsel a question, and that my Lord, brings up a very important point.

Q Yes, certainly.

(The witness here consults Mr. Nolan).

A You mentioned, my Lord, a figure of 15,000 barrels a day.

Q Yes, I just took the figure which was used generally.

A The present rate of withdrawal is 12,500 barrels a day from the crude oil area. Not all of it comes through the pipeline.

Q Yes.

A In the efficient operation of the field, and well, on a number of wells with which I am quite familiar, another rate, which through the year 1939 might be set, a figure which was not 15,000 barrels a day.

Q Yes.

A The additional acreage as I said has yet to be drilled. At the rate of drilling, the rate of drilling will affect the decline in the present wells. During the year 1939 and subsequent years, that rate of drilling, - I estimated it would take a minimum of 30 wells per year, that again affects the lifetime of the pipeline system.

Q Yes.

A I distinguished between two things, the revenue which is to accrue to the pipeline and the lifetime.

Q Yes, but what I am concerned with at the moment, I quite ap-

preciate your point, but I wanted to be clear about your evidence on the oil reserves in Turner Valley, you understand?

A Yes.

Q I gather from the number of experts who have spoken here, that it is the ordinary thing for those capable of doing it, professional men, to estimate reserves even although the drill has not proven them, is that in your view correct?

A My understanding of the, my opinion is, that you distinguish between the two. One is a proven thing. Now I gave the figure from 25,000,000 barrels, that is absolutely proven in my opinion.

Q Yes.

A I gave as the possible area which I myself think will be productive.

Q Yes.

A Some additional 13,000 acres and the rate at which it would produce on the average with efficient operation would be something in the neighbourhood of 6800 barrels per acre, that is the average. Does that answer the question?

Q Yes I think it does.

A To come to a definite number of years, I do not think anybody can say, my Lord, at all, because we are dealing with drilling programs which involve some 350 wells.

Q It is a matter of arithmetic to work out the number of years if you agree that there is a certain withdrawal.

at 5½ mill
per ann
= 20 years

A Certainly my Lord.

Q MAJOR LIPSETT: And if there is less than 15,000 per year, if that production is reduced to 12,000, that would really make whatever estimates you would give more conservative?

A It would lenghthen the lifetime, my Lord, but it would decrease the earning power.

Q Oh, I agree.

THE CHAIRMAN: It would decrease the earning power?

Q MAJOR LIPSETT: The earning power of the pipeline.

A, 15,000 barrels a day at 10¢ a barrel or 20¢ a barrel, amounts to so much money on an average throughout the year but 20,000 barrels a day at the same price is so much more money, so that in any one year if it is 15,000 barrels a day at a certain rate, which is now 15¢, you have so much total gross income for that pipeline. If you reduce it to 10,000 barrels a day you have the corresponding operation of expenses and interest and amortization and all the other factors continuing, but the less gross revenue, and therefore I am not in a position to say what actual lifetime that the Turner Valley field may have. I visualize a greatly declining amount of oil, perhaps to the tail end of the lifetime being very small, where you might get 5,000, perhaps 3,000 barrels a day going through the pipeline.

Q But I take it that, even as I think you have done satisfactorily, you see if there be a given rate of withdrawal per year?

A Correct.

Q, Then the lifetime could be estimated on that basis?

A And that----

Q Whatever it may be in a money way, the pipeline has that lifetime?

A That is right my Lord, and that rate of withdrawal is a matter of efficient operation of the well, not market requirements.

Q Yes. Anything else?

Q MR. NOLAN: I was just going to ask Mr. Davies if the rate of withdrawal did not also depend upon there being enough new drilling done in this Valley year after year to maintain this present figure of 5½ million, as you say?

A Oh certainly.

Q You took as an approximation 6,000,000 barrels a year?

A Yes.

Q And you took 32 wells?

A Yes.

Q $165,000?

A That is right, 30 wells I think.

Q Which required a drilling committment of something in the vicinity of $4,700,000?

A Close to $5,000,000 a year.

Q To maintain the present rate of production?

A That is quite right.

Q THE CHAIRMAN: Quite so. We are not losing sight of that at all, that it costs money to drill wells and somebody must get a return on that, but that is aside from this point altogether,

Q DR. BOATRIGHT: Mr. Davies, just reviewing the figures which you have just given the Commissioner, as I understand you, there are some 13,000 acres, just rough figures, from 13,000 acres in addition to the 3623 I believe upon which you think, or which you think is probably productive of oil and will be in the future?

A Yes.

Q That then figures out, multiplying, using the figure 6800 barrels, multiplied by 13,000 makes a figure of 88,400,000 barrels as the probable productive oil from that same 13,000 acres, which added to the amount of 25,000,000 barrels which you estimated for the proven area gives a total of some-

thing over 123,000,000 barrels, which you feel will probably be the ultimate production from the field.

A I do not know whether that multiplication or addition is right there. I doubt it.

Q THE CHAIRMAN: Perhaps if you figured it yourself, you might go through that again slowly.

Q DR. BOATRIGHT: Yes, my Lord, these are the figures I used. I made a mistake in multiplying but I used the figure of 13,000 acres.

A Yes.

Q And 6800 barrels per acre.

A Yes, just let me multiply that now, 88,400,000.

Q That checks with the figure I have. Now in addition to that I understood you to say you had estimated about 25,000,000 barrels as being your proven area?

A Of which some 8,000,000 was produced, so we would have 25,000,000 and take away 8,000,000 which would be 105,400,000.

Q Something over 20 years at the rate of 15,000 barrels a day, not going into the merits of that figure, but at the rate set at 15,000 barrels a day from the field, then that would make your probable, what you believe the field will actually produce, providing it is drilled out and providing it is produced, but you think the reserves are actually there, the available reserves are there, then that would amount to something over 20 years, 20 and a fraction years?

A Yes, dividing 5.5 or 5,000,000 into 105,000,000 would be 21 years.

Q MAJOR LIPSETT: 115, is it not?

A 113,000,000. Taking away 8, no, it would be 105.

Q Yes.

THE CHAIRMAN: That gives us how many years?

Q DR. BOATRIGHT: It comes out to almost 21 years I believe.

THE CHAIRMAN: Is that correct?

A That 105,000,000 barrels, and taking the withdrawal, 5,000,000 barrels a year, would give exactly 21 years.

Q THE CHAIRMAN: I just wanted to clear up that part of your evidence.

A Would that be all, my Lord?

Q Yes, unless there is something else.

Q DR. BOATRIGHT: There is one other point I would like to bring out with regard to Mr. Davies' testimony.

THE CHAIRMAN: Yes.

Q That was this fact of drilling, your supposition concerning whether it would be profitable to spend 5,000,000 or some figure like that in order to maintain this rate of 15,000,000 barrels a day which in your opinion it would be necessary to do, in the event that the recovery per acre were two or three times the figure of 6800, which you assumed, then there would be no doubt in your mind as to the practicability of drilling that acreage out, is that correct?

A No.

Q Understand, I am assuming that the field, instead of having a reserve of the figure of 6800, which you estimated, for the purposes of this question let us assume that the actual recoverable oil per acre throughout the producing acreage or the probable productive acreage will range between 15 and 20,000 barrels per acre, just assuming that now for the purposes of this question, then in that event would it or would it not in your opinion be feasible to continue to drill out the field at a rate sufficient to contain 20,000 barrels per day, it would be economically feasible to do it under those circumstances.

A I would like to answer that question in this way, that the Royalite Oil Company only pay 10% and 12% royalties; where you have these high royalties of 25% I find it very difficult on even a very good well to see where the shareholders can make money out of it, and I think that the answer to your question gets tied up with the method of financing in Turner Valley and that we will have to have some more, some sounder method of financing these wells in the future than we have had in the past. It would be more profitable, I will agree with you there, at 10,000 barrels than it will be at 6800, and still more profitable at 12,000, but still when you are going to pay, as some of them do, 25% gross royalty and then so much promotion stock on top of it, you have a very difficult proposition for the shareholders to make any money out of it.

Q You will agree to this, will you not, that so far the field has been developed regardless of the recovery per acre, it had been developed to-date, now then, if the recovery per acre in the Royalite's opinion justified these expenditures now and if it is shown that instead of being 6 or 7 thousand barrels per acre recoverable oil there, there is over twice that much then it would certainly indicate that it would be profitable to drill the balance of the acreage, - whether or not it will be drilled is another thing of course, but the fact nevertheless remains that they have drilled to-date and their opinion as expressed by Mr. Link and by you is that there is something around 7,000 barrels per acre?

A Yes.

Q The actual figure I am not of course quarreling with?

A No.

Q But if they are willing to develop the acreage and so far they have on that basis, if it finally shows there is 15 to 20 thousand barrels per acre, you would recommend that they drill

out the rest of the acreage, in other words, would you not recommend, if it has been profitable to-date and if it is found that the reserves are twice what your ordinary estimate has been, then it would be profitable to drill out the balance of that acreage?

A I am not trying to evade the answer in any way but I doubt up to the moment whether over all it has been profitable to drill the Valley, over all. I am not speaking for the Royalite Oil Company. I mentioned a very important item where it might be profitable for them and not profitable for others being that the Royalite Oil Company are only about 20%, a factor of about 20%, the other 80% is, if it has been unprofitable up to the present time then on the higher recovery, should there be higher recovery, there will be the point where the recovery and cost will meet. Now at what point that will be I am not prepared to state.

Q No, but all of this statement which you have just made is based on your figure of 6800 barrels recovery per acre?

A Based on the wells we have drilled up to the present time and as to what we have done.

Q And expressing an opinion, the opinion which you have expressed, you are going under the assumption that the recovery per well will be the figure 6800, which you think is right?

A I certainly do.

Q Now let us, for the purposes of this question, assume instead of being the figure 6800 which you have assumed in your estimation, let us assume there is over twice that much oil there, in other words there is between 15 and 20 thousand barrels per acre ultimate recovery to be expected, then in that event there would be no doubt in your mind as to whether it will eventually be profitable or not, will there?

cut [illegible] words, would you not recommend, [illegible] been profitable [illegible] date and if it is found that the reserves [illegible] with your ordinary estimate has been, then it would be profitable to drill out the balance of that property?

I am not trying [illegible] every way but I think [illegible] nothing. [illegible] even [illegible] it might [illegible] difficult. [illegible] will certainly [illegible] if a [illegible] about [illegible] suppose [illegible]

Mr. [illegible]

[illegible] more?

[illegible] recent time [illegible] Mass [illegible]

[illegible]

Property [illegible] 00, [illegible] be right?

I certainly [illegible]

[illegible]

A Dr. Boatright, I do not think it will ever be 20,000 barrels an acre, I do not think it at all and there is no use my assuming something I do not think. I can work out a theoretical problem for you, multiplying 20,000 barrels per acre on this number of acres, but I do not believe in it and I do not see any evidence from the well, it will be a purely mathmetical proposition here. If you want me to do that I will be glad to do it.

Q But the question I am asking you---

A If what it had performed---

Q It would be more profitable if there was that much more recovery?

A It would be more profitable than it is at present, as the relationship of 6800 is to 20,000 or whatever figure you like to take but my opinion is that at that 6800 it is not profitable on the average so our difficulty now is---

Q Let me put the question another way then, in making your statement to the Commission that in your opinion it would not be profitable to drill out the field and adequately supply this 15,000 barrels per day which you were assuming, you were controlled entirely by the figure of 6800 barrels per acre?

A That is my opinion.

Q And that you have no opinion if the production per acre should be 15 or 20 thousand barrels?

A No, I would say my opinion has been expressed to the best of my ability subject to, I have expressed it as best I know how, Dr. Boatright.

Q Well do you or do you not have an opinion regarding 15 to 20 thousand?

A I do not think the field will produce 15,000 barrels an acre, that is my opinion.

Q I know, but you have no opinion whether it would be profitable to drill the field in the event it did make some 15 to 20 thousand barrels per acre?

A I think it would be necessary to change the method of financing wells in Turner Valley to some sounder basis before at even 15,000 barrels a day there is going to be a profit.

Q Are you familiar with the methods which are used in making these calculations?

A Which calculations?

Q Any calculations whether or not it is profitable to drill the field?

A I certainly am.

Q All right, then in that event, it would be possible to calculate that, would it not?

A It is perfectly possible to calculate it.

Q And if that were calculated out, it would show whether it was profitable or not?

A I have tried to calculate it out on various figures of recovery of the average per well and I cannot calculate it out on the 6800 at all, and it will have to be some greater figure than that to be profitable, and then this 25% royalty business bothers me very considerably.

Q I think as a matter of fact that you and I did calculate that out, didn't we, on the basis of your 6800 barrels per acre, and on the basis of about $30,000,000?

A We came out at a loss I think.

Q We found out there was about a $4,000,000.00 loss indicated on the basis of that.

A Yes.

Q The actual income was approximately $26,000,000 as compared with an outlay of about $30,000,000.

A That is about correct I think.

Q Now in the event that the field produced over twice this 6800 barrels, then as a matter of fact we would have twice $26,000,000, or $52,000,000, as compared with $30,000,000 expenses?

A That is based on a supposition of which I do not believe in.

Q Then in that event you would change your opinion whether or not it would be profitable?

A When I get other evidence of these wells, incidentally we are doing it month by month.

Q I realize that, but if the figure which I have assumed is correct then it would be profitable and you would admit that?

A Certainly when I have evidence I would be glad to change it.

Q MAJOR LIPSETT: As to that 25% royalty, Mr. Davies, can you give us a little more information, is that the entire royalty on the lease, does that include a royalty by way of profit to the promoter or someone else, a middle-man?

A You take a government lease for instance, there is a 10% gross royalty in the case of government leases goes to the government. Then a promoter or middle-man or speculator comes in between and adds to that a 10% if the well is under 500 barrels and 15% if it is over 500 barrels and in some cases, - one case in the Valley where the royalties go up to some 30%. Now a gross royalty is a clear profit to the owner of the gross royalty. He takes, for every 100 barrels produced there is 25 barrels which goes without cost of investment or without cost of operation to the royalty holder and it is a very heavy load for any business to caryy. In my estimation it is too heavy a load to carry for the cost of these wells.

Q But what I was coming at, what you say may be very sound, Mr.

Davies, but when you are estimating profit, as Dr. Boatright was putting to you, is not everything over the original 10% royalty profit to somebody?

A Yes that is correct, but it is not to the operator. I am looking at it, the man who puts the money up to drill that well, because it is more money which is needed to drill more wells.

Q You mean while it is the profit it is not a profit to the public who puts up the money?

A Yes.

Q I understand that, but in estimating reserves would you not take everything over and above 10% that has to be paid to the government or to some superior owner as part of the actual profit which the well shows?

A I was dealing with the question of the man who drills the well, who puts the money up to drill the well, whether it be the Royalite or whether it is a small company or whether it is an individual, those who we must depend upon for this $5,000,000 a year, that is what I was referring to.

Q In the case of the Royalite Oil Company, would that not bear out what I was putting to you, namely that everything over 10%---

A That is right.

Q Was profit.

A And that was the reason I brought up the point that they could operate and drill these wells where other people couldn't begin to make a profit out of operating because they have not this load to carry.

Q But is not what you are putting really more in the nature of a criticism of promotion expenses or promotion profit as against the actual revenue, profitable revenue from the field?

A I see your point and yet who gets it is the point, Mr. Commissioner?

Q I was trying to get from you the life of the field.

A I would go back to the 105,000,000 barrels and on that you understand the government or the C.N.E. or the C.F.R. will get their portion. These 105,000,000 barrels includes all oil, no matter who it goes to , there are two distinct questions, in dealing with reserves of 6800 barrels per acre I dealt with totals complete and not with the portion which would go to different individuals or different companies, the total recovery.

Q And so far as 10% of that is concerned, that could not be avoided, that has to be paid to the government or the C.N.E.

A As the case may be, to somebody.

Q But as for any remaining portion of that royalty---

A Then I brought the question up with regard to the securing of money to drill these wells, which was a very important point in my opinion and one of the factors that is against getting money freely is this very high gross royalty which runs in a large number of cases to 20%, which I think is too high to carry on the recovery we are getting.

Q But as for any remaining portion of that royalty, in other words somebody is taking too great an intermediate profit.

A I think so, that is, the question with me when dealing with it is just, without anybody's interests being involved at all, just that somebody is getting it and it is too heavy a load to carry for the revenue you get.

THE CHAIRMAN: Somebody files on leases?

A Files on leases, we will say, in the year 1910 or 1915, and holds this land, the land is held where it is Government land and then somebody drills ia well in the neighbourhood and, incidentally, they pay $1.00 an acre a year and 50¢ for the original filing fee the first year. They have held some of that land since, to my knowledge, 1911. Somebody drills a well in the neighbourhood and the land immediately becomes of value. They will sub-lease this land to a drilling concern. The drilling concern pays an over-riding royalty, which runs in varying amounts that it is quite common to have a 15% over-riding royalty.

Q That is to say, they assume the payments to the Government and 15% to the person who filed?

A Yes.

Q And who is now sub-leasing to them?

A That is right. That has been very highly profitable in Turner Valley.

Q You say to whosoever he pays it matters not, the man who is actually producing the oil must pay out 25% as part of his cost of production before he can hope to make a profit?

A That is right.

Q At the present rate of recovery and at the present market you think he cannot do that and make a profit for himself?

A That is my opinion.

Q That being so, it becomes more and more apparent and more increqsingly difficult to get people to put up capital?

A Yes.

Q For the drilling of the wells?

/
Stanley J. Davies.

A That is entirely correct, my lord.

MR. COMMISSIONER LIPSETT: Just to pursue what my lord was at a little further. The first man who has been holding the lease for ten years or twenty years and paying his $1.00 per acre per year, presumably he is looking for a profit with that lease?

A That is right.

Q Supposing your fiew prevailed that it was not possible for him to get the money from the public to put down a royalty of 19%, would not the time arrive when he has to take a considerably less than that, rather than go on paying the carrying charges?

A It might.

Q And if your estimate is accurate or approaching accuracy say, would not that tend to bring down this, what you think is too high a royalty?

A It might. It has not yet. Perhaps I might say that. It has not yet. And the facts, as you very well know, Mr. Commissioner, are not certain as to what the recovery will be. Some experts think a large amount and others think a lower amount.

Q You think they are still optimistic, too much?

A I think so, my lord.

Q DR. BOATRIGHT: I would like to bring out one point with regard to this statement which you have just made. Is it not true that ~~any royalty figure which any operator~~ can pay, is a function of the recovery per acre and the recovery per well?

A And the cost of the wells.

Q Certainly?

A Yes.

Q In other words, your statements are based on 6800 barrels per acre, are they not?

A We covered all that a moment ago.

Q I am asking the question, is that correct?

A You know very well there is a qualifying point there.

Q What is that qualifying point?

A I think operations are now being conducted at a loss on the average and that 6800 barrels an acre was the average recover I estimated, and that if you increased the amount to come to a point where they will pay or where they break even.....

Q In other words, if the recovery per acre is in excess of what you think it will be then it is possible they could pay the 25% and still make a profit, is that not true?

A It will have to be very much in excess of the amount.

Q If it were twice the amount, for instance, that it is possible to pay 25% and still it would pay, would it not?

A I would have to sit down and work it out in detail.

Q You have not an idea how close it is?

A No.

Q Coming back to these figures of drilling. I think possibly we might make them a little clearer. Do you remember that in our original calculations we did assume a 25% royalty?

A I think that is right.

Q Now, let us just for the sake of this point that I am trying to make, did you determine the cost of the average well in Turner Valley?

A I did in the crude oil area, I gave it about $165,000.00.

Q All right. Are you familiar with the Bank rates which are charged, and the security required for Banks for developing oil properties?

A I do not think you could get a Bank loan to develop oil [illegible] based on 3800 [illegible]

[illegible] the [illegible]

[illegible]

[illegible] excess [illegible]

[illegible] which [illegible]

[illegible]

properties in Turner Valley.

Q Are you familiar with the terms which Banks ordinarily require for developing oil properties on the basis of reliable engineers' estimates as to reserves?

A We have none of that practice here at all.

Q Or that anybody with money does, leave out the Banks, would a four to one investment seem reasonable as security?

A You are assuming now....let me see if I have got you correct, the return of your capital?

A No, the security back of the loan?

A That is, you want to know what security will be back of the investment. For instance, I am in the position of a major oil company in buying property and developing it in Turner Valley.

Q That is right?

A I worked for some years with a company which figured they at least wanted five to one on their......

Q That is rather high, is it not?

A I do not think so. Certainly, as far as their practice is concerned it is not.

Q You also know of cases where companies develop acreage on a two to one basis?

A There are so many qualifying factors.

Q Nevertheless, figures of between three and five, or let us say four for an average, would probably represent what the ordinary oil company expects in the way of reserves on development?

A This thing can become so misleading I am going to answer this fully right now. The amount of money, first of all, involved is $165,000.00. The average number of wells which you have to drill, the good ones and the bad ones,

has to be taken into account. Therefore, you get to a point that if I was asked to pick on any location that I would like to select in Turner Valley, to pick out one location for a company to drill one well, I would want a great deal more than five to one because the hazard gets so very high.

Q That is based on your estimate of what the field will do?

A That is based on the results of these wells down there, , big ones and little ones.

Q And your statement now is based upon what you think that field will do based on your interpretation of these facts, is that not right?

A It is all based on the facts as I see them in the Valley.

Q Your interpretation of the facts, or , in other words, that figure of 6800 barrels per acre?

A We are not going to agree on this question, Dr. Boatright, and we may as well admit it right now. The amount of money, say it took $20,000.00 to drill a well, then you could drill eight wells, and have eight chances at $20,000.00 on a well, where in Turner Valley you might drill one well and might lose the whole thing.

Q Is or is not your opinion concerning this drilling based upon what you think the field will do?

A Certainly it is based on what the field will do on the average and what they will do, a small well and a big well proposition.

Q In other words, you would not want to express an opinion as to whether or not it would be profitable to go ahead and drill your Turner Valley field in the event the reserves are two or more times what you assume?

A Right now I do not believe they will be two or more times beyond that.

Q The question was you have no opinion so far as to whether or not it would be profitable in the event these reserves are twice as much as you have estimated?

A I have no opinion.

Q You do not intend your testimony in the earlier chapters of this Investigation to mean that in the event your ideas are wrong as to the amount of recovery per acre that it would then be unprofitable to drill?

THE CHAIRMAN: I think the witness has made it clear he has not calculated it out. But if there be greater recovery than he admits there will be a point where it will be profitable th that point he is not prepared to say because he has not made a calculation.

Q MR. FRAWLEY: Mr. Davies, I want to call your attention to the field prices of crude in Turner Valley in the year 1937. You are doubtless familiar with them. If you will follow me as to whether these records I have here are right. On the first of September, 1937, there was a drop in the field price?

A That is right.

Q The effective price before that was the price which had been there since the 16th of December, 1936. That is right too, is it not? There was a price posted on the 11th of December, 1936?

A Yes.

Q By the British American Oil Company, which was effective until the first of September, 1937, and then there was a drop, and then there was a further drop on the 5th of January, 1938?

A Yes, I think that is right.

Q Let me give you the figures for these, for the 43 to 43.?

gravity A. P. I., which we are now calling the refinery run, it is now $1.20, but in the first price up to the first of September, 1936, it was $1.64 a barrel?

A You know there are a lot of figures there but I do not remember them offhand.

Q There was a posted price last year for this 43 A. P. I. of $1.20, which we understand to be the average refinery run to-day?

A I think that is right.

Q And that same price on that first posting was $1.64. 43.9, $1.64. Then there was the drop on the first of September, 1937, by the Imperial Oil Company, do you remember that?

A Yes, I remember the drop, but the exact amounts, we can get that.

Q This is got from the National Petroleum News?

A I will agree this is correct. That I know.

Q And this is the present drop?

A Yes.

Q It is now $1.20?

A Yes.

Q So in averaging it, as you can do much more quickly than I can, it looks like the average price in 1937 for that particular kind of crude was well over, for a good deal of 1937 it was $1.64 and for the last three months it was $1.42?

A We will have to have the deliveries to work it out.

Q No, just that gravity, that is all?

A No barrels at all?

Q No, just the gravity, a barrel of that gravity?

A Give me the figures and I will work it out.

Q It was $1.64 and it dropped to $1.48, and after that, it was

1938 before it dropped again?

A That will be $1.53.

Q Let us assume that was the price which the Royalite Oil Company could get for its own oil of that particular gravity in 1937. Now, there was put in this morning, Mr. Davies, and you may not have seen it at all, it is now Exhibit "87C", put in by the company's auditors, a statement showing the estimated cost of producing a barrel of crude oil, .8619 dollars, 86¢. By the way, Mr. Morrison, calls my attention to the fact that was before paying for the royalties, so that would have to be added to it to some extent. If that is correct, and assuming that is the company's own figure.....

MR. NOLAN: You will make it clear to the Commissioners that is not from the books of this company.

MR. FRAWLEY: It is not from the books of this company?

MR. NOLAN: No, it is a statement rendered to New Jersey for statistical purposes only and comprises an estimate and that is all it amounts to.

MR. FRAWLEY: Well.....

MR. NOLAN: I know. If we make the estimate it must be the best estimate because we made it, but it remains an estimate.

MR. FRAWLEY: It comes out of the books of the company.

MR. NOLAN: It does not.

MR. FRAWLEY: Well, we will certainly hear more before the Commission is over about this and what it is. I want that cleared up. I do not want to be left too much in the dark about it.

Stanley J. Davies.

MR. NOLAN: You cannot clear it up by this witness.

MR. FRAWLEY: I know, that is quite true.

Q You are making your estimation that if the cost of producing crude oil as is estimated by the Royalite Oil Company, the producing cost of crude oil in Turner Valley field in 1937 was 86¢, then they are showing a pretty fair margin of profit, aren't they?

A Mr. Frawley, I am not qualified to answer that. I do not know anything about that.

Q No, but just assume. I do not even know much about it.

A We will say a well in its lifetime is to produce 100,000 barrels, and it is quite obvious in the year 1937 these wells have not produced anything like their lifetime, is it not?

Q Yes?

A So we get to the point that when a well first comes in it makes a lot of oil and the rate you take for any one month is quite different from the rate that you take for the second month or the third month or the fourth month. You have a figure varying all the way along. But you are not concerned, Mr. Frawley, with the over-all lifetime.

Q I do not know whether that is responsive to my question. It might be. All I am asking you to comment upon, if you assume it costs the Royalite Oil Company 86¢ to produce a barrel of crude oil in the Turner Valley field, and the average posted price I showed you ran about a dollar and a half, I say they are showing a pretty fair margin of profit on the production of a barrel of crude oil.

THE CHAIRMAN: The witness says if you take the

lifetime of a well. He says you cannot estimate it that way, but you have to take the lifetime of a well. Towards the end they are getting very little oil?

A Their overhead is just the same. There is a great deal to it. You cannot say 86¢ is the cost of a barrel and the sale price is $1.20 because that is not just all there is to it. There is the expense that varies.

MR. FRAWLEY: Incidentally, my lord, it is not $1.20. As a matter of fact, it was more like $1.50.

THE CHAIRMAN: Yes, but if you take that same well and take it through its whole lifetime that 80¢ might be a very different figure if you averaged it during the whole lifetime.

MR. FRAWLEY: That gets down to what this 86¢ is.

THE CHAIRMAN: Whether it is a month or a year or the lifetime of the well, that does not appear.

MR. NOLAN: It appears for the twelve months' period ending the first of December, 1937.

MR. FRAWLEY: These people received $442,000.00 on a total number of barrels produced of 513,000 barrels. That is where this .8619 comes from, presumably.

MR. COMMISSIONER LIPSETT: Is not that, Mr. Nolan, the average figure?

MR. NOLAN: No, that is the figure for that year , and as the Chairman has pointed out in order to determine whether it is profitable or not in this particular well of which we are speaking, "X" well, you have to consider how long it is taking to get your 6800 or your 17,000, because it is spread over a longer period of time. The witness has said you might get so much the first year and so much less the second year, and it throws that figure

out altogether. You have to consider the life of the well.

THE CHAIRMAN: It will cost the same to produce in the second year.

MR. NOLAN: The expense at the end or towards the end, might be greater than the income. That has been the experience.

A Yes, it certainly has.

MR. COMMISSIONER LIPSETT: I have not seen that at all, Mr. Nolan, but is that figure for each well or is that an average figure for the production during that year?

MR. NOLAN: For the production of these wells of this company during that particular year.

MR. COMMISSIONER LIPSETT: Is not that the average figure of the wells, some of which are at flush production and some of which are at near exhaustion. Is not that the average?

MR. NOLAN: But if you look at 1933....

MR. COMMISSIONER LIPSETT: It is just to get the figure that I want.

MR. NOLAN: That will have to be explained to the Commission, what these are. I am sure Mr. Frawley is going to go into that later. I notice that there is a cost in another year, 1933, of $1.30 per barrel.

MR. FRAWLEY: That is for crude oil and naphtha.

MR. NOLAN: What difference does that make?

MR. COMMISSIONER LIPSETT: If that is the average figure does not that eliminate Mr. Davies' objection. Is not that an average figure on the wells, some of which are producing at flush and some of which are near exhaustion?

A May I answer the question?

Q Certainly?

A In the year 1937 the crude area commenced real development

in the Turner Valley Royalty well in June, 1936. There were no other wells completed until February of 1937, when B. & B. came in. And then in March, 1937, there was Sterling 4 which came in, and was a very large well. So that as far as the crude wells are concerned the history dates over the whole field from July, 1936, or from June, 1936, when there was one well by the end of that year. Then in February there became two wells and in March it starts off with the third well. So the 1937 figure is all what you could call flush production. There are no crude wells reaching exhaustion in the year 1937.

MR. FRAWLEY: I quite realize there will, perhaps, be a better time to ask Mr. Davies this question, but I did not want to bring him back. I have got him from work to come here this afternoon, but I thought I would invite his comment upon this statement in view of his evidence, his opinion that they are not making any money in producing crude oil. It did strike me funny looking at it that way. They will have to be further explained. We may have to bring Mr. Davies back and get his comment when we know more precisely what the statements are. I am not going to subscribe to the proposition that the Royalite are not making money on producing crude.

MR. NOLAN: And you are not asked to subscribe to any proposition at all.

MR. FRAWLEY: I have some views to express, which I shall express, and I want to give you some intimation of what they are.

MR. COMMISSIONER LIPSETT: Mr. Nolan, would it be possible to get at some stage, I think it is a figure of around 5,000 or 5500 acres that we had that the Royalite Oil Company

owned, that is, its leases, would it be possible to get either a map or something which would show which of this acreage is in this 13,000 acres which was referred to.

MR. NOLAN: We have a map on which is marked the acreage of the Royalite Oil Company. It is in now as an Exhibit. What could be done would be to divide the field into the proven and the possible or probable area, and on that map superimpose the information as to the acreage that the Royalite has.

MR. COMMISSIONER LIPSETT: That might be a help. I think there are five areas. There is the gas-cap and then there is A and B and the 310 acres definitely proven valueless and the 666 acres to be proven. I do not know which of the 13,000 acres it is in. If we could get that, plus the holdings of the company I think it would be very helpful in following it.

MR. NOLAN: The fact the company holds acreage in the possible area will not prove it in the Commission's mind. It is just for the purposes of getting before you where the holdings of this Royalite Oil Company are in respect of the proven area on the one hand, and the possible or probable area on the other. I think that can be done quite simply and I will undertake to do it.

MR. COMMISSIONER LIPSETT: Thanks very much. I am sure it will help us in following it.

MR. FRAWLEY: It might not prove the acreage but it will show the state of mind. Mr. Morrison has another statement and we might get the consecutive number of that Exhibit on the record before he proceeds to discuss his main statement. This further statement is what?

KENNETH J. MORRISON, recalled:

A It is a statement showing the operating results as per

published statement together with certain other information for years 1931 to 1937 inclusive of the Royalite Oil Company. And as to the royalties and dividends paid and the equity of the Imperial Oil Company in the earnings of the Royalite Oil Company for the years 1931 to 1937.

(Document in question is now marked Exhibit "89".)

Q MR. FRAWLEY: Now, Mr. Morrison, please proceed with the discussion of your main statement.

A I was at the point, Mr. Chairman, when we discussed the statements that were submitted and I would suggest we probably now read the balance of the report and then refer back to the statements and discuss them in detail. On page 2: "Allocation of Expenses." The accounting records of the pipeline division of this Company are included with the other accounting records and the charges in respect of operation have not been made in such a way that the results of this division can be readily ascertained. The revenue earned is shown in separate accounts, as are also the direct expenditures. It will be realized, however, that there are a number of indirect costs which are due to be borne by this division, and it is in these amounts that considerable difficulty has been experienced in arriving at a proper basis of distribution. We have discussed the various angles of the problem of the disposition of indirect costs with the officials and with the auditors of the Company. The Company has already put through its books, an allocation of some of these indirect costs, but it is agreed that the distribution which has been made might be unfair to the Company insofar as the

pipeline division is only a department, and that it is not necessary for the Company to have a detailed accounting for every department. After much discussion, it was agreed that the indirect costs would be distributed on what is known as a labor ratio basis, which, in this case, means the proportionate relationship of the amount of the wages earned by the men employed in the pipeline division compared with the related amount of the wages earned by all of the men employed by the Company. I may interject there that that refers to the pay-roll of the Turner F Valley, of the labouring men, on a per day basis, when I speak of the labour ratio. We accepted this basis on the understanding that all men employed, both as to capital expenditures, such as drilling of wells, etc., and also as to operating expenditures, were included. The principle of including the men employed on capital expenditures did not meet with the approval of the representatives of the Company, and we understand that they have used a different basis of apportionment of indirect costs. In the attached statement, we have used the labour ratio as the basis of distributing these costs.

THE CHAIRMAN: You might just elaborate that before you proceed to Foxed Assets. You have a difference of opinion there.

A There are certain items of expenditure which are common to various departments in this organization, such as the crude oil producing department, the drilling of wells, the gas department and the pipeline department. There are certain administration costs, for instance, that are due to be borne by each of these departments in some ratio to be ascertained. Now, it is not practical to allocate these

costs from day to day because it is not possible to say - take even Mr. McLeod's salary - to show just how much time he spends each day in the crude oil department, the drilling of wells department, the pipeline department, and so forth, and so it is necessary to arrive at some basis of distribution. I take the view that the indirect costs should bear some relationship to the direct costs. By the "direct costs" I mean the labour of the men employed on the pipeline, the repairs to the pipelines and things of that kind, which are directly chargeable and can be ascertained at the time the expenditure is made, by the pipeline department.

Q THE CHAIRMAN: How would that, for example, how would that help us to determine what should be charged against the pipeline department in respect of Mr. McLeod's salary, which you have instanced?

A Well, that, there is a relationship between the total expenses of the Company, we will say for labour, the total amount paid for wages to the outside men amount to a certain amount of money, of which a certain proportion belongs to the pipeline department, and we will assume, just for the sake of argument, that 10% of the wages of the men employed belong to the pipeline department, we have suggested that the indirect cost, which cannot be determined definitely, should be also apportioned on that same basis of 10% to the pipeline department and 90% to other departments.

Q I yet do not understand the theory of it, that is predicated, I mean I can understand when you are arbitrarily saying "He must have put more than half his time on the

pipeline", or something like that, but when you relate it to the labourers on the line....

A It is based on the thought of the relationship between the direct cost and the indirect cost. When I spoke first of the labour of the men, that is a direct cost, it can be definitely shown that so many men were on the pipeline and their wages are charged to the pipeline department operating expenses, so many men are employed by all other departments.

Q Yes?

A And all of their wages are charged to those various departments; therefore, of the total direct cost of this company in respect of labour the pipeline takes 10%. Now, then, we have assumed that same rate for the distribution of administration expenses, because there is no other basis that has been suggested to us, other than the revenue basis, and I will explain the basis which is used in the statements, Exhibits "83" onward, was that those indirect costs were distributed on the relationship of the revenue of the pipeline department compared to the total revenue of the company, in other words, we will assume that the total revenue of the company is a million dollars and that the revenue of the pipeline department is half a million dollars, therefore the pipeline department will bear 50% of the indirect costs of the Company, such as administration. We argued against that basis on this principle, that the revenue of the pipeline department could increase very materially without a corresponding increase in costs because all that you have to do is increase the capacity going through the line and you will

Kenneth Morrison.

correspondingly increase the revenue of that department, but it does not cost a correspondingly greater amount in labour, and so we rejected the distribution on a revenue basis. Now, in discussing the matter of the labour ratio it was agreed, as I say in my report, it was agreed that this was an equitable basis, but where we differed was that we insisted on all men employed outside, including the drilling of wells, to be taken into consideration, the other that was only the operating men, the men employed in the ordinary operations would be so included, and our thought for excluding the capital expenditure was that the men employed, or rather that the department employing the men, on the drilling of the wells, should bear a proportion of the adminstration costs.

Q MR. FRAWLEY: Is it clear what you mean when you say "administration costs", is it quite clear the kind of costs you include?

A Well, on page, on schedule No. 22 of our report, Exhibit "88", are the details of the administration costs, and using the figure for the period ending 30th September, 1938, they totalled $82,000.00, and are made up, I will just give you the main items, salaries, administrative officers' salaries, $20,438.35; salaries employees, in the administrative office, $21,000.00; then the next big item is the estimated figure for professional fees and expenses, $15,000.00; the other items, there are a number of items but they are relatively small, workmen's Compensation Board, $3,000.00; Toronto offices, Toronto office charges, $3837.00; totalling altogether, $82,000.00. Now, it is in the distribution of those items

Kenneth Morrison.

which are common to all of the various departments of the company that we wanted to find some basis of distributing a fair share to the pipeline department.

Q MAJOR LIPSETT: Have the accountants of the company themselves, have they not made any attempt to distribute that?

A They did, Mr. Commissioner, as I say, there was a distribution made as the years went by, there was a distribution made, not of all of them, but of some of them, and I recognize the fact that now we are looking at this company in a different light from a mere department, that we are looking at it almost from the point of view of a public utility and, therefore, it would only be fair to allocate to that department a proper proportion of those expenses, whether or not the company had in the past put through a distribution, and so we eliminated from the records that apportionment which had been made and substituted this one for it. We used the labour ratio and I believe the company has used some other ratio, as to what difference the different methods will make I do not know.

Q THE CHAIRMAN: What method did they use as appears from their books, the revenue basis?

A No, Mr. Chairman, I was unable to ascertain definitely what the basis was. It seems to change from year to year. There did not appear to be any definite basis of distribution.

Q An arbitrary allocation?

A Just an arbitrary allocation, but in the statements which have been presented here in Exhibit "83", the revenue basis of allocation of indirect expenses was used.

Q I suppose you have considered where you end up, you could

take the allocations as they were before any statements for the purposes of this Commission were made out?

A Well, there was no statement prepared, sir, for any purpose other than those that have been presented here, and referred to as the "Jersey statements" and we have not prepared a statement as shown by the books of the company strictly but we have shown in our report here as shown by the books of the company insofar as depreciation is concerned, but insofar as these indirect costs are concerned, we have in all of our statements used the labour rate basis and ignored both the distribution which has been made in the books and also the revenue basis of distribution. Now, as to whether or not there will be any material difference in the costs in cents per barrel is very, very doubtful, sir.

Q MR. FRAWLEY: By using the labour rate basis you have a different percentage to apply in each of these periods?

A We have, yes.

Q And by using the revenue basis you would have a different percentage?

A That is correct.

Q And what is your view of the fairness of the one as against the other over the whole period?

A Well, insofar as the revenue basis is concerned, my objection to it is that I do not think the expenses, the indirect expenses of the company accrue in proportion to the revenue of the pipeline department.

MR. NOLAN: May I interject, Mr. Chairman, we have not used the revenue basis for the allocation of these indirect costs, so if it will help any I can say that now; so that the difficulty between us is not as between the labour rate basis and the revenue basis, it is a difference

between us in the kind of labour ratio that we apply, so we can discard for the purposes of this discussion the revenue basis.

WITNESS: Insofar as our individual reports?

MR. NOLAN: Yes.

WITNESS: The revenue basis was used in the Jersey statement.

MR. NOLAN: Yes, but we have not used them here.

MR. FRAWLEY: Then we both have the labour rate basis.

MR. NOLAN: That is so.

Q MR. FRAWLEY: All right then?

A Then continuing under the heading of "Depreciation", on fixed assets:

> " An important item in the determining of costs is the depreciation of the fixed assets or the Invested Capital. In ascertaining the amount of depreciation, two factors must be known, namely the amount invested in the assets and the estimated life of the assets.
>
> We are of the opinion that, insofar as the Capital Investment is concerned, the amount should be based on the original cost to the Company less the amount of accrued depreciation which has occurred."

I, perhaps, might just stop there and point out that because of the suggestion that we should use periods from five to thirty years we have not been able to summarize these, other than by way of statements because it was not possible to know just what period might be regarded as a suitable one, and, therefore, each amount of depreciation will vary in accordance with the number of years taken as being the

estimated life of the assets.

Q MAJOR LIPSETT: When you say "the amount of accrued depreciation", do you mean the amount which they show for depreciation each year?

A Well, that will be in one statement, sir. The amount as shown by the books and the others will show on the basis of five years, ten years and so forth, but one statement will take into consideration the amount as shown by the books in respect of depreciation.

> " The amount of the original cost, in our opinion, should relate only to the assets of the Pipe Line Division presently in use and which are necessary to the proper and efficient operation of the system. These assets are usually referred to as being used and useful.
>
> The assets of the Pipe Line Division are enumerated on an attached schedule and consist of:- Gathering Lines, which connect the tanks of the various producing wells with the Tank Farm, and also the Absorption Plant with the Tank farm; Trunk Delivery Lines, which connect the Tank Farm with the Refinery of the Imperial Oil Limited at Calgary; Tank Storage at Turner Valley, which is referred to as the Tank Farm, at which point the oil is gathered and batched for transportation through the Trunk Lines; Pumps, Pumphouse and Tanks; Automotive Equipment and sundry other equipment, all necessary for the efficient operation of the Pipe Line."

Q MR. FRAWLEY: May I interrupt you and take you back to that short paragraph at the top of page 4 in which you say: "The amount of the original cost, in our opinion, should relate only to the assets of the Pipe Line Division

Kenneth Morrison;

presently in use and which are necessary to the proper and efficient operation of the system." In other words, "used and useful" assets, do you want to comment about that, by way of illustration to assist the Commission as to what you did in any particular instance in that regard?

A Well, the reason that I put that paragraph in the report was to make it quite clear that I am only regarding for the purposes of the invested capital of the company the amount of money which has been spent in assets which are presently in use. Now, in 1929, there was a six inch loop built, which was taken up in 1932. Now, the company suffered a loss in respect of that being taken up in that they did not recover the labour, but that loop is not now in use, and insofar as the capital investment of this company in the Pipe Line Division is concerned, I have eliminated that in any, in all calculations, on the ground that it is not in use at the present time. Similarly, I might say that the No. 1 four inch line was actually written off in the company's records, but as it is still in use I have reinstated it in the capital structure and depreciated it now on the various lifetimes suggested, from five to thirty years, but it is in use, is used and useful and, therefore, is part of the capital structure of the Pipe Line Department.

Q MAJOR LIPSETT: You mean it was amortized prior to your investigation?

A It was. It was fully depreciated in the books of the company prior to the date of our investigation. Now, of course, that opens quite a big question as to the treatment of these assets which are still used and useful and which have been fully depreciated or partly depreciated in the

books of the company, and just whether or not now is the time that we wish to go into that fully or when we are discussing the rate base.

Q MR. FRAWLEY: Well, I think you will be discussing it?

A Oh yes.

Q You will have to discuss it?

A We will have to discuss it when the time comes.

Q Subject to what the Commissioners may think, unless they have some objecton, you can go on and discuss it when you come to it?

> " In addition to the foregoing assets which are referred to as the Pipe Line Assets, there are other assets, such as Fuel Gas Lines, Water Lines, Boiler Plant, Electric Plant, Residential Quarters and other like assets, the details of which are also shown in an accompanying statement, which are all used, to some extent, in the operation of the Pipe Line system. The extent of the amount of these sundry assets which is applicable to the Pipe Line has been determined in the same manner as the amount of the indirect operating costs, viz. the labor ratio basis."

And here, I take it, the Company are merely using a different labour ratio basis for ascertaining the amount..

> " A similar proportion of the Investment in Sundry materials on hand has also been included, which amount is deemed to include any necessary cash Working Capital.
>
> In ascertaining the annual charge for depreciation, we have used, as the capital figure, the total of the Invested Capital at the beginning of each year, together with half of the additions and/or deductions during the succeeding year."

Kenneth Morrison.

And I might explain there that the reason for using half is to give to the company a fair proportion of the additions of the year for investment and depreciation. purposes. In other words, they are making additions from January until December and it would be necessary, to be accurate, to work them out for each month, but by taking half, which is the usual method, the company gets the full benefit of the average additions made during the year, both for depreciation purposes and for determining the rate of return on their investment.

> "The resultant figure has also been used as the basis for the purpose of determining the rate of return on the Capital Investment. A salvage value of 10% has been deducted from the assets when arriving at the annual charge for depreciation on the bases of life-times of from five to fifteen years, and 5% salvage value on the bases of life-times of from twenty to thirty years."

In other words, we have made a provision which suggests that if an asset is only in use for fifteen years it will have a salvage value at the end of that time of 10%, and , therefore, the company are only entitled to depreciation on a 90% value . For the purposes of return of investment, however, they get the full 100% and 5% salvage value on the longer life, which is given to the assets.

> "It is necessary to know the life of the various assets of the Pipe Line Division in order to calculate the annual depreciation and, in our opinion, in this particular problem, the estimated life of the Turner Valley Oil Field is the determining factor. Evidence

Kenneth Morrison.

is being submitted to the Commission on this very important factor, and it has been suggested that our statements should be prepared on the bases of life-times varying from five to thirty years. In addition, we have prepared a further statement using the depreciation that the Company has actually put through the books.

Because of the number of bases for depreciation used in the statements, it is not practical to summarize them in this Report and, therefore, the results shown must be considered by a review of the statements."

And, under the heading of "Operating Results":

" The revenue of the Pipe Line Division is usually confined to one source, viz. the rates received for transporting oil. In the years 1937 and 1938, however, the books of the Company show a further revenue under the heading of 'Pipe Line Adjustments'. For the year 1937, the amount is $57,479.63, and for the nine months ended 30th. September, 1938, the total is $83,694.31. These amounts represent the gain to the Company of the difference between the actual Line Losses sustained and the amount of the deductions made ~~from the producing Companies to~~ provide for such losses. This phase of the operations is dealt with later in this Report.

The expenditures, as shown by the attached statements, are divided into the following headings:-

Direct Costs,
Indirect Costs,
Depreciation,

Kenneth Morrison.

Income Taxes,

Losses on Sales or Retirements of Equipment.

The direct operating costs are those as shown by the books under 'Pipe Line Operating Expenses', from which have been eliminated the allocations of indirect costs, as charged by the Company. Depreciation has also been eliminated from these accounts insofar as it has been charged in the books. The basis of charging indirect costs has already been explained as has also the basis of depreciation. Income Taxes have been calculated at the rates prevailing in the respective periods and the Losses on Sales of Equipment have been adjusted to conform with the varying rates of depreciation.

Kenneth J. Morrison.

"In the statement of operations for the nine months ended 30th September, 1938, we have eliminated from the direct costs as shown by the books, an item of rental paid to the Imperial Oil Limited on storage tanks, amounting to $14,583.30. This sum represents rental for five months (May to September, 1938), at the rate of $35,000.00 per year on approximately 200,000 barrels of storage at the refinery of the Imperial Oil Limited, Calgary. After consultation with Dr. B. B. Boatright, Petroleum and Natural Gas Engineer, of Houston, Texas, who has been retained by Counsel to the Commission, and who, we understand, will give evidence before the Commission in this regard, we are of the opinion that this rental is not a proper charge against the Pipe Line Division.

As mentioned previously, the financial records do not show separately all of the transactions of the Pipe Line Division, but we have been supplied with a copy of statements which are prepared annually for Head Office purposes,"

and which by the way now are Exhibits "83" to "87",

"and in which the operations of the Pipe Line Division are shown. These statements were obtained for the years 1933 to 1937, and insofar as they relate to the Pipe Line Division, are summarized hereunder:"

Then we have the assets, the assets, which means the gross value of the assets, the depreciation reserves in respect of those assets, that is the amount, accumulated amount which has been set aside in these state-

Kenneth J. Morrison.

ments for depreciation and the net value of the assets, and then the revenue is shown, the expenses, and the last figure is the excess of revenue over expenses.

For the year 1933 the total assets were $712,225.53 against which on the statements there was a reserve $334,883.68, making the net value of the assets, $387,341.85; the revenue for that year for the Pipe Line Department alone was $178,062.21, the expenses were $108,746.62, leaving the excess of revenue over expenses of $69,315.59.

Now in connection with the expenses I might explain that it is in that figure where the distribution of indirect costs is made on the revenue basis. It is not now done by the Company in the other statement.

Q MAJOR LIPSETT: On what basis was that depreciation reserve estimated?

A I believe it is taken on a 10% per annum basis.

For the year 1934 the figures are $700,073.24 for assets, reserve $378,560.99, the net assets $321,512.25, the revenue was $228,007.66, with the expenses of $108,786.47, leaving the net figure of $119,221,19.

For the year 1935 $658,629.10 of gross assets, reserve for depreciation - $317,818.04, the net figure of the assets $340,811.06; the total revenue for the year was $207,007.45, the expenses of $99,005.21, and a net revenue of $108,002.24.

In the year 1936 $701,062.47, by the way these figures are as at the 31st of December in each year,

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the asset and depreciation figures, the depreciation reserve was $373,678.76, the net assets $327,383,71; the revenue was $198,863.42, with expenses of $97,929.44, and a net revenue of $100,933.98.

For the year 1937, the assets at the end of the year were $673,161.62; the depreciation reserve of $165,084.50, with $508,077.03 net; the revenue for that year was $486,324.15, and expenses of $190,221.26 with a net revenue of $296,102.89, so that the total revenue for the five years in question was $1,298,264.89, the expenses for that period were $604,689.00 and the excess of revenue over expenses was $693,575.89.

Q MAJOR LIPSETT: In that figure of $165,000.00 for depreciation reserve in 1937?

A Yes.

Q Does that mean that some $200,000.00 of the reserve was used in that year for further capital expansion?

A No, the answer to that, Sir, is that there were certain assets written off, one of which was the Number 1 line which I just mentioned. In other words, what they did was to reduce the reserves and reduce the assets by a corresponding amount. You see this represents a cumulative figure. It does not necessarily represent the money itself, It is the measure of what has been set aside year by year and in a cumulative way, at the end of the year it represents these figures. Now if there is an asset that has been fully amortized, we will say, like the Number 1 line, they will make an entry in their books reducing the depreciation reserve by the amount which has been accumulated in respect of that particular asset, and at the same

time they will reduce the asset, so that on the books of the Company it will probably appear at a value of $1.00, a nominal value.

Q That is something the same as is in there for 1935?

A Yes, in 1935 the same is true, that there had been some withdrawals from the reserves for assets which have gone out for many reasons, they may have been transferred to other departments, no longer in use in the Pipe Line Department and the reserve that was accompanying these also goes out so that they reduce the reserve and reduce the asset. In the meantime, of course, there are certain additions to their capital expenditures which, if it were not for these deductions, these figures would be that much larger.

(Go to Page).

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In the year 1937, there was additional revenue shown in the records of the Pipeline Division amounting to $57,479.63, representing pipe line adjustments, which amount is not included in the above figures. Now the reason for that is that I made - there were statements, Exhibits "83" to "87", that that amount has been distributed not to the Pipe Line Department but to the various producing departments, crude oil, etc. The statement shows exactly how it has been distributed. The next item is under the heading "Pipe Line Losses".

Q MR. FRAWLEY: You have shown this pipe line loss, that revenue, you have shown it in the Pipe Line Divison .

A Yes. In our statement we have regarded that as a pipe line earning.

Q But in the statement for the Jersey Company that earning of pipe line losses and deductions has gone to the crude oil purchasing department.

A I was just going to find that Exhibit. It is the year 1937, that amount of $57,479.63 is distributed on Exhibit "87c" to crude oil $35,558.40; crude naphtha $13,157.54, and absorption gasoline $8,763.69.

Q But the books have credited it to the other divisions and you have credited it to the Pipe Line Division as an earning?

A Yes, that is correct. Pipe Line Losses. In the program of Inquiry, under the heading of "Rates", the following subject of Inquiry appears:-

Whether any charges made in respect of gathering, handling or distributing are excessive or unreasonable? Attached hereto is a statement showing the experience

of the Company in respect of line losses for the years 1933 to 1937, and for the nine months ended 30th September, 1938. Prior to the 4th October, 1936, the Imperial Company reimbursed the Royalite for the oil purchases made, and the Imperial Company took over the oil delivered, irrespective of whether it was more or less than the amount for which it had paid. Since the 5th of October, 1936 - and by the way that date is the effective date of the British American transporting contract, Exhibit "29", the Royalite Company receives payment for the oil actually delivered by it, so that the Pipe Line Division is now responsible for the losses or gains in respect of the oil transported over its system. Now, summarizing this statement, the results are as follows:- In the year 1933 there was a loss of 7,671 barrels, that is the actual line loss exceeded the deductions made by 7,671 barrels that had a value of $22,446.04. That was borne by the Imperial Company. It is the same in 1934. The actual loss over and above deductions was 7,931 barrels, having a value of $19,841.62, all of which was borne by the Imperial Company. In 1935, the loss was 1,878 ~~barrels,~~ having a value of $4,384.77, which loss was borne by the Imperial Oil Company. In 1936, the loss was 963 barrels, of which the Imperial Company bore a charge of $998.89 and the Royalite Company a charge of $1,269.92, making a total loss for that year of $2,288.81. In 1937 there was a gain of 36,305 barrels. That is an excess of the actual barrellage over deductions made, that had a value which was credited to the Imperial

in the amount of $9,969.40 and to the Royalite Company of $58,769.55, or a total of $68,738.95. In the year 1938, that is to the 30th of September, the total gain in barrels was 64,029 barrels, having a value of $83,694.31 which was to the Royalite Company and is included in their earnings for that period. That is a total of $83,694.31. Summarizing, we have 81,891 barrels of a gain over the six years in question, of which there was a loss to the Imperial Company of $37,701.92, and a gain to the Royalite Company of $141,173.94; making a net gain to both companies of $103,472.02.

Q MR. FRAWLEY: Mr. Morrison, you have the last three months of 1938, and it occurs to me you might give those figures and the Commissioners might put that on their statement Number 26 which would be the proper place for it, or right in on Page 8 of the Report.

A It is just two figures. I just received that figure from the office of the Company for the three months ended the 31st of December, 1938. There was a further gain of 9,228 barrels, with a value of $11,535.00, all of which would go under the heading to the Royalite Company.

Q MR. COMMISSIONER LIPSETT: What figure?

A 9,228 barrels, having a value of $11,535.00.

Q Can you tell us in general terms what effect that has on the independent companies, or other companies transporting oil through these pipe lines, such as the

British American or Lion Oils?

A Well it will have no effect on them from the point of view of transportation. What it means is that there have been deductions made from the producing companies in accordance with their contracts to provide for line losses. We have on page 26 the various deductions that are made, but these deductions have been more than sufficient in the last two years to provide for the actual losses, to the extent of the figures that I have just quoted to you.

Q That is approximately in 1938, approximately $95,000.00.

A Yes, that is correct. Approximately $95,000.00 adding the $11,535.00 to the $83,694.00. I might say, of course, on page 26, it will be noticed - well I show it in the report. To finish up that paragraph which is in the report. The 1938 results shown above are for the nine months ended 30th September. Since 1st September, 1938, the deductions made to provide for line losses have been reduced from 3% on naphtha and 2% on crude deliveries to 2% on naphtha and 1% on crude deliveries. At the date of this report, the results of the pipe line adjustment for the months of October to December, 1938, were not available to us. But I have just supplied that figure to you.

Q Does that mean that this 11,000 has happened notwithstanding the reductions since the 1st of September?

A That is correct.

Q That deduction has been in force for the entire three months?

A There is one month, it was in force from the 1st of September so that the reduction has been in for four

months, September, October, November and December. But insofar as the three months I have just quoted to you, that is the result on the reduced basis of deduction.

Q MR. FRAWLEY: Mr. Morrison, it is in the record, but at the risk of repetition, just to have it along with your report, would you explain the pipeline deduction as to whom they are made against and how it works out to the advantage of the Royalite to the extent you have indicated here. Against whom is it made?

A The deduction is made on the run ticket from the producer, from the producing well.

Q Yes?

A So on the basis I mentioned on Page 26 for these periods, at one time it was 3% on all production. Then in 1937 it was reduced from 3% on naphtha. It would still remain 3% on naphtha from September 1st, 1937, to December 31st. It was reduced at that period to 2% on crude oil. But prior to December 1st, 1937, insofar as all companies except the B.A., it was 3% on all products. Insofar as B.A., is concerned it was 3% on naphtha and 2% on crude. From the date of their contract, Exhibit "29". Then all other companies were reduced to the same basis on September 1st, 1937, namely 3% on naphtha and 2% on crude, which was also the deductions made in respect of the British American deliveries.

Q MR. COMMISSIONER LIPSETT: You mean 1938?

A No, 1937, Sir. In 1938 the rate was still 3% on naphtha

and 2% on crude until September 1st at which date it was reduced to 2% on naphtha and 1% on crude. I understand that is the deduction presently in force.

Q Just that I may get it clear, is that deduction taken from the wells or is it taken from the B.A., and Lion Oils?

A It is taken from the wells. The producer of the oil in selling it to say the B.A., suffers a deduction of 3% or 2% now, and 1% on crude. If it was crude oil we were speaking of the producing well, his run tickets will be reduced by 1% to provide for line losses at the present time. So that for every 100 barrels that he puts out of his tank to the B.A., he will get paid for 99 by the B.A.?

Q By the B.A.?

A By the B.A. I am speaking now as if it is the B.A., that purchases.

Q And what is the connection between the B.A., and the pipe line?

A Well that 1% goes to the benefit of the Pipe Line Department of the Royalite, to take care of their line losses. In other words, they have to transport that oil. That is my understanding of the B.A. situation.

Q MR. FRAWLEY: There are two main purchasers of oil in Turner Valley, the Royalite and the British American Oil Company?

A That is correct.

Q The British American goes to one of the Brown wells, and buys 100 barrels of oil.

A Yes.

Q The British American pay for, now, 99 barrels?

A That is correct.

Q And previously for ninety......

A 98 .

Q And previously to that 97?

A No, it was always 98 for that crude oil.

Q The British American Oil Company desires to transport those 100 barrels which they have bought through the Royalite pipe line for their account in the East Calgary refinery yard, or for processing under their refining contract?

A Yes.

Q What further line losses, or what further deductions or adjustments are imposed upon the British American with respect to that oil?

A No further deductions. But the Royalite Company only have to account for the 99 barrels to the B.A., Oil.

Q To the B.A. Oil Company, yes.

THE CHAIRMAN: That 1%, he is used as the collection agency for the Royalite, that is all. They do not get it twice?

A No, they do not get it twice. It is the same thing, only there is another purchaser. When it is the Royalite purchasing from other wells, then it is merely a Royalite transaction all the way through.

Q MR. FRAWLEY: Let us take the Royalite. The Royalite will buy 100 barrels of oil from one of the Anglo-Canadian wells and they will pay only for 99 now, or 98 previously?

A That is right.

Q They then transport that oil and deliver it to the

Imperial Oil Company?

A Yes.

Q And the result of these figures is that they have been delivering more than they have paid for?

A That is correct.

Q To the extent of these figures?

A That is correct.

MR. COMMISSIONER LIPSETT: I was trying to follow up how that is a profit for the Royalite?

A The Royalite is getting reimbursed by the Imperial for what they have bought. In other words, the Royalite has paid the A.B. & C. Company for 99 barrels of oil. The Imperial immediately reimbursed them for that 99 barrels of oil. But they are able to deliver 99½ barrels of oil and the Royalite bills the Imperial for that extra half barrel, and gets paid for it.

Q That is by reason of the well getting paid for rather less than the actual quantity of oil the well delivers?

A Actually, yes, but this is in accordance with the agreement.

Q It was not on the merits at all that I was speaking?

A No, that is true. There was delivered from that well 99½ barrels. Take a hypothetical case. They were only paid for 99 barrels. It was estimated there would be 1 barrel of oil lost in transportation or evaporation and there was only a half barrel lost.

Q And that goes not to the B.A., but goes to the Royalite, to the pipe line?

A That is correct.

Q MR. HARVIE: I think maybe the point has been

cleared up, but to make certain in that respect, as you understand it there is no profit on that pipe line loss to the B.A.?

A That is correct.

Q THE CHAIRMAN: I suppose to be fair in the matter, it must be borne in mind that if the pipe line company had a break and lost 10,000 barrels of oil, the pipe line company would suffer?

A Correct, Sir.

Q MR. FRAWLEY: These figures simply reflec the actual experience and their good fortune as against the deductions which they made?

A That is correct. I have asked that question as to whether or not there were any losses just as has been suggested by the Chairman, and apparently none in this period, that have not been taken care of.

Q THE CHAIRMAN: Do you know as to whether or not when pipe lines are taking over in other parts of America that is the usual figure for evaporation and for misadventure?

A The deductions Sir?

Q Yes?

A I have no personal experience. I know there is a deduction, that is quite universal to make a deduction, ~~but as to that amount~~ I ~~understand~~ Dr. Boatright has some evidence on that.

MR. COMMISSIONER LIPSETT: It must obviously be a round figure of some sort. You could not take individual shipments?

A The deduction of 1%?

Q It must be some......

A It must be some percentage, of course not necessarily a round percentage of 1 or 2.

Q I did ~~not mean~~ that, ~~but~~ it must be a fixed percentage?

A Yes. I would think so, to be practical. That completes the report, Mr. Frawley, to where we were going to discuss.......

THE CHAIRMAN: I do not think we will proceed with anything else tonight.

(At this stage the Hearing was adjourned until 10.30 A.M. 16th January, 1939.)

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. J. FRAWLEY

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IN THE MATTER OF THE PUBLIC
INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the
12th day of October, A.D. 1938, to inquire
into matters connected with Petroleum
and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta JANUARY 16th, 1939

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EXHIBITS

"90" -	Agreement dated 18th September, 1936, between Imperial Oil Limited and British American Oil Company Limited, re refining agreement	2117.
"91" -	Map prepared by the witness Irwin showing New Valley-Calling Valley areas.	2151.
"92" -	Booklet issued by the Department of Lands and Mines of the Province of Alberta, entitled "Schedule of Wells Drilled for Oil and Gas to 1938", Page 48.	2155.
"93" -	Map produced by the witness Irwin showing a narrow portion in the South of the Turner Turner Valley area "Fish Creek Sheet".	2166.

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ERRATA: A mistake has been made in numbering the pages of the Record, page 2000 following page 1199. In order to avoid confusion later this error will not be corrected. To obtain the actual number of pages in the transcript at any time subtract "800".

MAJOR LIPSETT: There was an Exhibit numbered "2" filed early in the Hearing and I wondered if at some stage it would be possible to give us the figures to the end of 1938 for that, to complete that Exhibit?

MR. FRAWLEY: Yes. As a matter of fact I have now, and it may as well go in now, I have here a quite recent statement prepared by the Conservation Board showing Turner Valley production and also showing pipeline deliveries for the whole of the year 1938, month by month, but I want to say this about the month of December; as to all the other months they are the certified production from the wells themselves but as for December the Board has return from their own field men and they have made from that a fairly close estimate of 1938, they assure me, and it is the best we have or will have for some time yet, that is for December 1938. Now I have shown this to Mr. Nolan and I would like him to show it to his people perhaps and then I will file it because some of it is his own company's figures, figures relating to his own company, so if I might file that at 2 o'clock.

MR. NOLAN: If we might have an opportunity of looking at it because it has only been prepared.

MR. FRAWLEY: Quite right.

MAJOR LIPSETT: There is no hurry in filing it, I just thought to mention it.

MR. FRAWLEY: Quite.

KENNETH MORRISON, having been recalled, examined by Mr. Frawley said:

Q Mr. Morrison, when we rose on Friday you had just finished the first reading of the report itself and in the reading of it you had passed over the nine statements or a series of statements which you list on page 2, and you intended of course to go back and go over those statements, each of them in detail and that I think is what you would like to do now, is it?

A Yes, I think that would probably be the better way of explaining the statements.

On page 2, Item no. 4, is entitled "Individual Detailed Statements of Revenue and Expenditures, Direct and Indirect Cost, only for the period under review". Now that is really a separate point, Item No. 4 is a separate point, it is the individual items which are later summarized and those statements are numbered 10 to 21.

Q Now just to make it quite clear, the first two sheets, 10 and 11?

A Are the details of the year 1934 for the Direct and Indirect Expenses.

Q And let us just be sure the Commissioners have those.

A Number 10 and 11, sheets numbered 10 and 11.

Q That is the revenue?

A Numbers 10 and number 11 are for the year 1934 and numbers 12 and 13 are for the year 1935; 14 and 15 for the year 1936; 16, 17, and 18 for the year 1937; and 19, 20 and 21 are for the nine months ending 30th September, 1938.

Now the details of all of those statements from the year

1934 to 1938 are common in the main as to the chief items making them up.

Q You are now going to discuss these statements?

A Yes, but I would suggest we use one period as being indicative for the purpose of understanding what the statements are and that will apply to all the other periods. Now if we would take the 30th of September 1938, which of course must be kept in mind is merely a nine months period; I have discussed the matters with the company's representatives, Mr. Taylor of Price-Waterhouse, as to whether or not it would be possible to regard this period as indicative for the whole of the year 1938 and they are presently considering that matter and will be able to give a definite answer to it quite shortly.

Q In other words if Mr. Taylor does agree the first nine months are representative of the whole twelve months that will eliminate the question raised by the Commissioners the other day, to get out the last three months?

A Yes.

Q And rush that work through?

A Yes, because it will not be available until the middle of February, that is the figure for the twelve months.

Q You do suggest and I take it you have made overtures to Mr. Taylor that they should agree that the first nine months are representative of the whole twelve months?

A Yes.

Q And have the Commissioners take the first nine months and make such conclusions therefrom as if they were dealing with the whole year?

A Yes. As a matter of fact the barrels, through-put for the nine months is very close, checks very closely on the daily average of the whole year. Now it is a matter of

the expenses they are presently looking into and there may be some items in the expenses which might throw out that comparison but that is being done at the present time.

Q MAJOR LIPSETT: That is agreed then, that you are going to give us a short summary of the figures for the year on that basis?

A No sir, it is not anticipated that the figures will change at all but we will show the results as shown by the nine months, and take those as being indicative of the figures which would be shown if the whole year had been completed.

Q Yes, but the profit margin would increase proportionately?

A No, not proportionately; that is to say, after all we are dealing mainly with the cost per barrel, and the cost per barrel would be almost the same whether we deal with nine months or twelve months because the average rate of barrels per day is the same for the year as it was for the average of the nine months.

Q Yes, but when you gave your earlier summaries the profit for the year, you gave it for the total year 1937?

A For the full year 1937.

Q Yes, and then when you come to 1938 the profit figure you show there in your statement is based only on a nine months period?

A That is correct.

Q That would have to be adjusted to give us it for twelve months?

A Well that was not anticipated but at the moment we are mainly concerned with the cost rather than the amount of the profit; after all the cost can be compared with the rate which is being charged so that we would get the profit per barrel and then that could be multiplied for

practical purposes for the number of barrels which had gone through and we would arrive at some net profit for the year, approximately the net, the same net profit for the year even although we do not have the complete figures for the year.

Q MR. FRAWLEY: It is suggested to me you might divid by three and multiply by four?

A No, that would not be any more accurate. That is merely projecting it out for the full year but you would arrive at the same figures per barrel.

Q What you are saying is you cannot give the Commissioners the total profit for the year 1938 in dollars?

A Yes.

Q But you can give them the profit per barrel, the cost per barrel?

A We can give them the totals in dollars by, just as you suggest, dividing by three and multiplying by four but it would not be any more accurate in barrel figures than our present figure.

Q We do not know whether we are going to have any agreement with the company so we might as well proceed then.

A Well dealing with the Statement No. 19 in our report for the nine months ending the 30th of September, 1938, Statement No. 19, now on the right-hand side of that statement is the revenue obtained by the company, the pipeline division of the company, for the nine months period and it is made up of the revenue derived from transporting oil to the refinery and at the rate metnioned there, the 48560 barrels at 17¢ and 4,514,142 barrels at 15¢. The rate changed on the 5th of January I believe of 1938 from 17¢ to 15¢ and the 48560 barrels represent the barrelage at the 17¢ rate; the revenue derived at the 17¢ rate was

$8,255.20, and at the 15¢ rate, $677,121.30, a total revenue from transporting charges of $685,376.50. In addition to that the pipeline division transports oil to a local sales agent at Turner Valley, which they charge 7½ ¢, or half the rate and there were 25,826 barrels which gave a revenue to the pipeline division of $1,936.95. Now those two figures, $685,376.50, and $1936.95 is the total of the revenue from transportation charges as distinct from the next item which I will read; in addition to that the pipeline department got revenue amounting to $83,694.31, which represents 6429 barrels at an average price of $1.3071¢ per barrel. Now that amount, as I mention in the report, means the gain to the company between the amount of the deductions made in respect of pipeline losses against the producing companies and the actual line losses sustained, and that figure is further dealt with on statement number 26, the last statement in the book, it will be shown on the very last page in the folder, Statement No. 26, $63,694.31, at the bottom of the page on the right-hand side, and that represents 6429 barrels at the figure which I have mentioned of $1.30. Now you will notice that the actual deductions for line losses where 88,277 barrels and the actual line loss, according to the companys' record, was 24,248 barrels or a difference of 64,029 barrels.

Q MR. FRAWLEY: Might I interrupt there, Mr. Morrison, do you know what the percentage of actual loss was as against deductions for line losses, that is the 88,277 and the 24,248, we had it worked out?

A It is, I have the figures, at least I did have the figure

Q .525%, do you recall or was it half of 1%?

A I think that is approximately the figure.

Q I would much rather you would give it if it is to be of value, will you recall to put it in?

A I will make a note to give the actual percentage of the figure.

(2104 Follows)

A Now the Pipe Line Adjustment Account has just come into the records of the Royalite Oil Company in the years 1937 and 1938, so that that item is not common to the statements of 1934 and 1935 and 1936. During those previous years the pipe line adjustments were taken care of in the records of the Imperial Oil Limited and that is the reason that they are not in the books of the Royalite Oil Company.

Q MR. COMMISSIONER LIPSETT: Will it be convenient now to deal with the item Pipe Line Losses for the year 1937, only for that year?

A Yes, it would be quite convenient. Now if you will refer to statement No. 16. I suggest we just keep these statements extended out and probably it would be easier to handle each statement if they are extended out. Statement No. 16 is the Revenue Statement for the year 1937, and it will be noticed from that that we have a pipe line adjustment of 30,801 barrels, at an average of $1.8661, or a total of $57,479.63. Now then, if we refer to Statement No. 26 again, you will find that figure is reflected there as the amount - there are two sums in this years because the Imprial comes into the picture as well. On Statement No. 26 it will be seen that the total gain in respect of Pipe Line Deductions was 36,305 barrels with a total value, that is on Page 26, 36,305 barrels and they had a total value of $68,738.95. But of that amount $9,969,40 was credited to the Imperial Oil and $58,769.55 went to the Royalite. Now there would appear to be a discrepancy there which I can explain. $58,769.55 which is shown on Page 26, is affected by an item in 1936

on the same page, Page 26. You will find an item under 1936 of $1,289.92, and that was an adjustment which was actually made in the books of the Company in 1937, but in order to show which year it is insofar as the experience in Line Lossess were concerned, we treated it as in the proper year, so that actually 1937, insofar as Royalite was concerned, showed a profit of $58,769.55 and 1936 a loss of $1,289.92, resulting in a net profit as shown by Statement No. 16 of $57,479.63.

Q That $57,479.63 is a figure that you refer to on page 7 of your report?

A That is correct.

Q As the figure that they had not given credit for?

A In the Jersey Statement?

Q In the Jersey Statement?

A That is correct, Sir, yes. Now then, to give you the information so far as 1937 is concerned, of the Pipe Line Adjustment. It also, of course, takes up that $1,289.92 of 1936.

Q THE CHAIRMAN: Does it appear why the Imperial carried this adjustment account prior to 1937?

A Well, my information, Sir, was that the price which the Imperial paid at that time was, prior to October 4th, 1936, was deemed to take care of the adjustment.

Q MR. FRAWLEY: The field price was the price which Imperial Oil paid the Royalite for the oil?

A To the Royalite. It was Royalite Oil then.

Q MR. COMMISSIONER LIPSETT: Just following that again, from your Page 7, Mr. Morrison, of the report, Excess of Revenue over Expenses. The figure for 1937 which you show as $293,102.89, that should, in your opinion then, be

increased by $57,479.63?

A That is correct. And in our statement, Statement No. 16, we have so included it.

Q Adjusted it?

A Yes. We have so included it as Company revenue of that year. The summary on Page 7 is merely a summary of the Jersey Statements. There is probably one item which might just as well be explained here in connection with these Pipe Line Deductions, that we are regarding the Pipe Line Division almost as a separate entity for the purposes of these statements. Now there is a certain proportion of these deductions which are made from Royalite Oil Company's producing wells. In other words, the Company, one other department of the Company is suffering deductions for Line Losses, the profit on which is reflected as a profit or a gain of the Pipe Line Divison. You see there are producing wells by the Royalite and by other companies. Now the same deduction is made as against the Royalite wells as is made against all of the other wells. There was some portion of profit shown in these statements as a cross-entry in the books of the Company, but for our purposes, regarding the Pipe Line Department as a separate department, then we have regarded these as an earning of the Pipe Line Division, as the books of course show. The books show it as an earning of the Pipe Line Division. I wanted to make that explanation so it would be clear that that does not of necessity mean revenue from outside producers.

Q THE CHAIRMAN: Does it appear, supposing

the Company made a profit in their Adjustment Account, a considerable profit in any one year, does it appear what portion of this so-called profit they pay themselves?

A That is what proportion of that profit.....

Q Being the Royalite Company you are talking about, the Pipe Line Department, as if were a separate entity?

A Correct.

Q And they themselves act as judge?

A Yes, as is shown by the records.

Q In making deductions from themselves?

A In making deductions from themselves.

Q To protect themselves against Pipe Line Losses?

A Yes.

Q So to the extent as it has happened in the past, there is a profit?

A Yes.

Q In some years anyway that profit is not an actual profit to the Company as a Company?

A No, that is true. That is correct.

Q And of course I want to know has it been ascertained what weight is to be given to that feature, if we are to decide it?

A As to the extent of it, Sir?

Q Yes? In short, how much of the so-called profits are they paying themselves, taking out of one pocket and putting it into the other?

A It can only be done by taking their proportion of the difference. That can be done.

Q Would it be a great deal of trouble?

A No, that can be done.

Q I think that would be interesting?

A I wanted to make that explanation so that the Commission would know about that.

Q At the moment, subject to what the witness or Counsel might have to say, it strikes me that we perhaps should not lose sight of the fact, however many departments the Company might conceive itself into for its internal workings, it is, nevertheless, a Company?

MR. NOLAN: We are of the opinion that figure should be brought before the Commission either by we ourselves or Mr. Morrison in conjunction with us. It is only a simple matter. We will produce the figures.

A As a matter of fact we have the figure if it is necessary to calculate the amount.

MR. HARVIE: In this connection the Company I represent would like to be of some use in this phase of the Inquiry, but in view of the fact there are no extra copies of the Reports and things now being considered, it is really of very little use me spending any time here unless I can get that.

THE CHAIRMAN: I suppose that has not been done because you expressed at one time little interest in the Pipe Line matter.

MR. HARVIE: That was purely the phase having to do with the life of the field. We are very interested, in this. Possibly we are responsible for something like about one-third of the pipe line income, so we are naturally very interested in this phase. It makes it very difficult for me to follow.

THE CHAIRMAN: Quite so.

A Referring back then to the statement on Page 19, which is

the period that we have been speaking of, for the nine months ending September 1938, the total revenue of the Pipe Line Division of the Company was $771,007.76. That is on Page 19. The total is down at the bottom of that page, and sets out the total revenue of the Pipe Line Division as $771,007.76. Now as against that there were certain expenses that had to be incurred and borne out of that revenue, and those are shown on the lefthand side of the statement on Page 19. Under the head of "Direct Operating Costs" and the sub-head "Oil Gathering Lines," these are as shown by the books of the Company with the exception that the allocations there have been made by the Company have been by mutual consent eliminated from these figures, and the totals are as follows:- Labour. Department Heads or Foremen $2,698.12; Gaugers, Line Walkers, and Laboratory Test Men $22,666.95. Under the heading of Repairs, Pumps, $4,912.16; Electrical Equipment, $202.40; Boilers $191. 0; Pipe Lines and Tanks $5,037.03; Buildings $284.33; and General $3,427.52; Clerical Help $3,305.65 and Utility Expenses $2,759.99, making a total direct operating cost under the head Oil Gathering Lines of $45,585.75. Now these expenses are directly chargeable to the Pipe Line Division.

Q MR. FRAWLEY: For labour only?

A Labour, and Repairs later on. Under the main heading of Labour. Then we come to materials.

Q THE CHAIRMAN: Take Repairs to Pumps?

A That is labour.

Q Labour in repairing the pumps?

A That is correct.

Q How many pumps are there? I suppose you do not know?

A No, I do not know. All of these items, of course, I might say, are subject to examination of the auditors of the Company generally, and we have not gone back of that. We have not examined to see whether or not these are correct charges against the Department other than what the books show. In other words, we have not made an audit of this Department. It would be quite impossible in the time at our disposal so to do. So that we have accepted the charges as made by the Company.

Q And as audited by the Company's auditors?

A Yes, and as audited by the Company's auditors. I cannot speak as to the extent of the audit. Under the heading "Material". We have small tools and supplies, $4,265.97; Repairs to Pump $7,966.52; Electrical Equipment $567.24; Boilers $533,46; Pipe Lines and Tanks $4,646.28; Buildings $644.08; General $870.12, and Lubricating Oil, Grease and Gasoline $586.17, or a total under the heading of "Materials" of $20,079.84. Under the heading of Transportation Expenses, $6,380.91, Fuel, Water and Water Treatment $2,015.57. Utility Expense $2,207.68, Janitors' Supplies $22.66. All other expense $1,788.30 and Power Purchased $3,654.97, making a total of Direct Operating Costs of the Oil Gathering Lines $81,735.48 for the nine months' period. Then our Direct Operating Costs for the Calgary Trunk Delivery Line. Under the heading of Labour. Well we have the same headings practically as in the Oil Gathering Lines. Department heads or Foremen $2,810.63; Pumpers, Line Walkers and Laboratory Test Men $8,866.81; Repairs, Pumps, $1,250.91; Meters $12.95, and Electrical Equipment $19.15. Then we carry on on Page 20. A continuation of those items under the heading of Repairs,

Pipe Lines and Tanks $2,657.10; Buildings $222.20; General $988.30, Clerical Help $2,011.70 and Utility $404.83, or a total under the heading of Direct Operating Costs for the Calgary Trunk Delivery Lines of $19,244.58.

Q THE CHAIRMAN: Does it appear what goes in under the word "Utility"?

A These are a number of items that are under the Utility basis. I have not got the details of them, Sir, at the moment.

Q What is meant, I do not understand the use of the word?

MR. FRAWLEY: You mean light and water?

Q THE CHAIRMAN: Is that what they paid out to some public utility?

MR. FRAWLEY: No, whatever it is, it is not that.

A No. I can get that explanation. I have not got it at the moment. I have it in my working papers, the details of what is made up in that figure.

Q There is a word there that I do not know its significance. Major Lipsett points out that on Page 19 we have Utility, two thousand dollars odd?

A Under Oil Gathering Lines?

Q Yes?

A Yes, we have the particulars.

Q It gets to quite a sum, and I think perhaps we should know what it is. No doubt it is quite explainable?

A Oh yes. That is a total of $19,244.58, Under the heading of Calgary Trunk Delivery Lines Labour. Now under the heading of "Material" on Page 20 we have Small Tools and Supplies $3,946; Repairs to Pumps $2,445.40;

Meters $217.28; Electrical Equipment $10.01; Boilers $2.79; Pipe Lines and Tanks $2,231.58; Buildings $77.47, General $319.42; Lubricating Oil, Grease and Gasoline, $1,728.55. That is a total of $10,978.50, under the heading of Material for Calgary Trunk Delivery Lines.

Q Lubricating Oil, Grease and Gasoline. That is money paid out for those?

A For those items, yes.

Q Does it appear if it was paid to themselves?

A Oh no, these are outside expenditures, expenditures outside of the Company altogether.

Q I did not know but what this Pipe Line Department, being considered as a separate thing, they had bought from the other department?

A Oh no. Of course, one of the great difficulties in this is that you have to have a distribution of expense, and there are so many varied companies that you will find a voucher coming from, say the North West Company, which in turn is distributed in the Royalite Company. We have not gone back to the North West Company. So that is in at least as purchased from the outside. It would be almost interminable to do so. So that we have taken it these are expenditures made, not to themselves. Well we know they are not to themselves as a Company, but the voucher comes through other affiliated companies, because a number of the expenditures made by this Company, finally made, are distributed from, say the North West Company.

Q I suppose these are all products that go through the refinery. They would not get it from the Royalite?

A It is not likely, no. While we have not examined that

phase of it, that is to say whether or not they were purchasing from themselves, in the main we are quite satisfied there is nothing of that kind.

Q No?

A Transportation $2,224.57; Fuel, Water and Water Treatment, $804.22; Utility Expense $1,777.16; The same explanation will be obtained for that item. Janitors' Supplies $2.90, all other expenses $1,718.95. Now there was an item, Rental of Storage Tanks at Imperial Oil Refinery amounting to $14,583.30 which we have eliminated. We have not regarded that as being an item of expense properly chargeable to the Pipe Line Division.

Q MR. FRAWLEY: What is that transportation, $2,224.57, that only means with respect to.....

A Trucks.

Q That is still Direct Operating Costs of the Calgary Trunk Delivering Lines?

A That is correct. You will find a similar item in the Oil Gathering Lines. That is the distribution of their truck expenses. Now with regard to the amount of rental of storage, probably it is just as well that that matter should be discussed now from the accounting point of view. The first thought that we had on this was when we asked for the production of the agreement with the British American Oil Company with respect to storage. We felt that there were three companies involved in the transporting of oil, the Imperial Oil Company Limited, the British American Oil Company Limited and Lion Oil Refinery. With respect to the Imperial Oil on oil purchased, that is the property of the Imperial Oil Company at the field.

We felt we could not see the correctness of charging to ~~for~~ the Pipe Line Department any items for storage in the yards of the Imperial Oil Limited of their own oil. It was their property and we could not see why there was any correctness in charging the Pipe Line Division with any storage of Imperial Oil's oil in the yards of the Imperial Oil Limited. Then with regard to British American Oil Company, Exhibit "29" provided that the British American Company were to supply sufficient stprage for the storing of their oil in the yards of the Imperial Refinery. That agreement, however, appears to have been amended and Mr. McLeod in his evidence so stated, that that agreement had been amended. However, going further with the matter, we find on Exhibit "77", which is a copy of a telegram from Mr. Bronsdon, reference to Clause 9 of Exhibit "29".

Q THE CHAIRMAN: And Mr. Bronsdon is?

A I understand Secretary of British American Oils.

MR. FRAWLEY: He is the Secretary of British American Oils.

A The following question,- I think I would like to have Exhibit "29". We might refer to Clause 9 which is referred to here.

Q You can have my copy.

A Clause 9 of Exhibit "29" of which this is a copy I understand, from Mr. Frawley, says:

> "The producers agree to have sufficient available storage at its Calgary storage tanks for
> "receiving for a period of ten days consecutively
> "at the rate of Six thousand (6,000) barrels
> "per day. Should the producer at any time be

"unable to accept delivery in Calgary of its
"oil from the transporter, the transporter
"may refuse to accept further oil from the
"producer in Turner Valley until such time
"as the producer has adequate storage capacity
"at Calgary to receive the oil ready for
"delivery. After any delivery of oil by
"the transporter has been commenced, it will
"not be blocked or stopped by the producer
"until the transporter has completed said
"delivery of oil."

Q MR. FRAWLEY: Mr. Bronsdon is referring there, he says to a certain.....

A This is the Agreement that he refers to. I am going to read the telegram, Exhibit "77" "Re Tel. Paragraph 4. That is not the one I have in mind. Paragraph 9"- that is the one I have just read, should be read in conjunction with Clause 4 in the refining agreement which reads:-

"Imperial agrees subject to the Provisions
"hereof, to provide sufficient available
"storage at its Calgary Refinery to receive
"crude oil, naphtha or absorption gasoline
"from B.A., at any time, and in any quantity
"that the Pipe Line transporter of B.A.,
"may deliver up to a maximum capacity to
"receive Six thousand barrels per day for
"Ten consecutive days. Should Imperial at
"any time be unable to accept delivery at
"its Calgary Refinery of B.A's oil from the

"transporter, the Imperial will provide
"storage for said oil elsewhere".

(Go to Page -2117-).

MR. FRAWLEY: Now I think is the time to introduce this agreement which I asked for and which only came this morning, particularly because Paragraph four has been referred to in the telegram which is not quoted in full, one short sentence, so I will now offer the Agreement dated the 18th of September, 1936. between the Imperial Oil Limited and the British American Oil Company, Limited, which I think can be hereafter referred to as the refining agreement between those two companies.

(AGREEMENT PRODUCED HERE
MARKED AS EXHIBIT "90")

MR. FRAWLEY: Now I think I had better read into the record that same paragraph right from the Exhibit. I think we might read, these paragraps by the way are not numbered, Mr. Bronsdon is simply beginning his numbering from the witness clause, and the third paragraph is:

> "B. A. agrees to arrange with the Royalite Oil Company Limited for the transportation through its pipeline of all crude oil naphthas and absorption gasoline from B.A.'s tanks in Turner Valley to the Imperial Oil Company Calgary refinery tank. Imperial agrees to act as B. A.'s representative to measure the quantity and quality of oil received in their storage tanks at Calgary. Imperial also agrees to measure with the representatives of B. A. and Royalite the quantity and quality of crude oil, naptha and absorption gasoline delivered by B. A. to the Royalite Oil Company, Limited in Turner Valley. Imperial will, subject to delivery thereof to Calgary tanks as aforesaid, credit B. A. with the quantity and quality of such crude oil, naphtha and absorption gasoline as

measured in Turner Valley and those measurements, less deductions of 2% on crude oil and 3% on naphtha, will be used as the basis of calculating the yields and cost as shown in Schedule "A"."

Then there is quite a comprehensive schedule attached. Then four, the paragraph which Mr. Morrison was reading:

> "Imperial agrees, subject to the provisions hereof, to provide sufficient available storage at its Calgary Refinery to receive crude oil, naphtha or absorption gasoline from B.A. at any time and in any quantity that the pipeline transporter of B.A. may deliver up to a maximum capacity to receive 6,000 barrels per day for ten consecutive days; should Imperial at any time be unable to accept delivery at its Calgary Refinery of B.A.'s oil from the transporter, Imperial will provide storage for said oil elsewhere. After any delivery of oil by the transporter has been commenced, it will not be blocked or stopped by Imperial until the transporter has completed said delivery of oil."

Now having this only put into my hands at this moment, Mr. Chairman.

MR. NOLAN: It arrived this morning by air mail.

MR. FRAWLEY: Quite, it only arrived this morning. I think that is all at the moment; I want to call the Commission's attention to.

THE CHAIRMAN: What is the date?

MR. FRAWLEY: The date is the 18th of September, 1936. The agreement, Exhibit "29"---

WITNESS: Is the same date.

THE CHAIRMAN: The same date?

WITNESS: This is the agreement between the Royalite and the Imperial.

Q MR. FRAWLEY: The transporting agreement between them?

A Yes.

Q And this is the refining agreement between the B. A. and the Imperial?

A Yes.

Q MAJOR LIPSETT: Is the sequence then of events, the B. A. makes an agreement with the Royalite for transporting their oil and that the Royalite would provide storage in Calgary; the B. A. then makes an agreement with the Imperial in connection with refining, upon which the Imperial would take over that storage obligation?

MR. FRAWLEY: Except I think perhaps they are all simultaneous.

MAJOR LIPSETT: But I mean that is the effect of it?

MR. FRAWLEY: Yes.

MAJOR LIPSETT: And then having agreed with the Imperial and the B. A., the Imperial then asks the Royalite to pay for that storage $35,000 a year, is that right?

MR. FRAWLEY: The Imperial asked the Royalite to pay $35,000 a year, you see I am in this position---

MR. HARVIE: I do not think that is correct, if I might interrupt. I do not know whether Mr. Nolan can explain that.

MR. NOLAN: We intend to explain it through evidence.

MR. FRAWLEY: Well Mr. Morrison suggested that he might justify or give reason for eliminating this and he was proceeding to do that. There will have to be something

addressed to the Commission with respect to this matter. Certainly Mr. Nolan is concerned with it.

MR. NOLAN: I did not know that Mr. Morrison was going into that. He states "on the advice of Dr. Boatright a petroleum engineer", Mr. Morrison has disregarded this item.

Q MR. FRAWLEY: Let me ask you, have you some reasons of your own, perhaps I should have asked you that on Friday, in addition to the opinion you obtained from Dr. Boatright, the petroleum engineer, did you have some view of your own with respect to the elimination?

A Quite so. I had eliminated it before discussing it with Dr. Boatright and he merely confirmed from another point of view entirely the elimination. I have eliminated it, from the first I eliminated it from the Imperial, the Imperial's oil, and secondly the B. A. oil, but that was before Mr. McLeod gave his evidence.

Q I have this suggestion to make, Mr. Morrison, I think you can pass from it now and come back to it, with the leave of the Commissioners, and then you will have an opportunity to read the exhibit which only arrived this morning, to satisfy yourself as well as you can from an accountant's standpoint as to the effect of that agreement, and then come back and discuss it later.

MAJOR LIPSETT: Just before he passes from it, Mr. Frawley, the reason I raised the question was not with any view of forming any opinion but the reason I raised it was this, if this amount for the storage was to be eliminated, would it not follow then that any expense incurred by the Royalite in this account for operating that storage tank should also be taken into consideration.

A Well there is no expense that I know of, sir, other than this item of rental, that is to say, there is no expense incurred

by the Royalite Oil Company other than this amount of rental so far as we have been able to ascertain.

Q So far as the books show then the only expense of running these tanks in Calgary is borne by the Imperial?

A That is correct.

Q MR. FRAWLEY: Let me ask you that, do the workmen of the Royalite go upon the premises of the Imperial Oil to attend to these tanks?

A Not so far as I could see and I understand it is otherwise.

Q The Imperial does it all?

A Yes.

Q And the Royalite pays them $35,000 a year?

A That is correct.

Q Now unless there is some objection in your mind, Mr. Chairman, as to that and unless Mr. Morrison feels quite satisfied----

THE CHAIRMAN: I want to hear a lot more about it but I do not care when.

MR. FRAWLEY: That is the point, if that is in accord with your own views, Mr. Morrison?

A There is nothing further to explain, that I have further to add, I was governed just in regard to the Imperial by the fact that it is the Imperial's oil; secondly so far as the B. A., by these two contracts.

Q It is the Imperial Oil Company's oil?

A Yes, which is being stored at the Imperial Oil Refinery.

Q And the British Americans also?

A Yes, but I am speaking now in two divisions, the Imperial Oil first and the B. A. by these contracts.

Q All right. Now that takes care of all these people who had used or whose oil is kept in these tanks?

A Yes.

Q Now what with respect to the Lion Oil Company?

A It is somewhat different with respect to them, except as to this point that insofar as the pipeline charge of 15¢ which is presently in force is concerned Mr. McLeod in his evidence stated that there was no charge in there for storage. Now then all other parts, all other transactions, with the Lion Oil Company are handled through the Imperial and therefore, any charge which may be made to the Lion Oil should come out of the earnings of the Imperial, which charges 6¢ for piping from the Imperial Refinery to the Lion Refinery or a 5¢ handling charge in the case of loading.

Q THE CHAIRMAN: Would you mind enlarging upon that, you say any charge made to the Lion Oils in respect to the storage of the Lion Oils?

A Would be borne by the Imperial.

Q Why?

A The only charge made by the Royalite to the Lion is for transporting their oil and Mr. McLeod states that there is no charge in there for storage.

Q I thought Mr. McLeod stated that that would include the storage.

A No I think not, sir, on page---, I have not the volume at the moment.

Q MR. FRAWLEY: Mr. Morrison I know looked at that, if you will excuse me for a moment I will bring up the complete transcript of the evidence.

THE CHAIRMAN: Do you recall, Mr. Nolan.

MR. NOLAN: No, my memory of it was that Mr. McLeod said that the 15¢ included storage.

THE CHAIRMAN: That certainly was my impression

also but it may be a very different picture, it might be well worth our while to have a five minutes' recess and have you and Mr. Frawley if you will look at that before Mr. Morrison proceeds, settle it just at this point.

MR. NOLAN: Yes, my Lord.

(A Five minutes' recess was here taken).

MR. FRAWLEY: Mr. Chairman, I will read from page 883 of the record, the evidence of the 19th of December, 1938, it was at the time that we asked Mr. Nolan to produce the correspondence or other documents regarding the transporting of oil, between the Imperial and the Royalite. Mr. McLeod was on the stand.

> "Q. MR. FRAWLEY: Are we to understand that the 15 cent rate, Mr. McLeod, which you charge the Imperial, is purely to gather, to transport and to put into their, into, well now just what is it for, to gather it and handle it or anything else but gathering it and transporting it? A. And storing it against the day they will need it. Q. And storing it? A. Yes. Q. Then is there something in the 15 cents then for storage? A. No. Q. Then it is just that you gather in and transport it for 15 cents? A. Yes. Q. You store it free of charge and pay them $3000.000 a month rent? A. Yes."

MR. FRAWLEY: That appears at pages 833 and 834. Now, Mr. Morrison, you made a reference to the transcript a few moments ago in your evidence, is that the reference?

A That is the reference I had in mind.

Q Now is there anything else you want to say now. You were dealing with I think particularly with the Lion Oils?

A Yes, the only other charges in respect of the Lion Oils

go through the records of the Imperial Company and do not in any way accrue to the benefit of the Royalite Oil Company and therefore I have not considered that any charge in respect of storage for the Lion is a proper charge against the Royalite Oil Company. Now Exhibit "79" gives the details of the storage, that is held in respect of the various companies.

Q THE CHAIRMAN: Now Mr. Morrison, the storage of the Lion Oil,- you say that with respect to the B.A., the Imperial has obligated itself to do the storing?

A Yes.

Q And with respect to the Imperial itself, it is storing its own oil, that is your position?

A Yes.

Q So you eliminiate the charge?

A Yes.

Q Have you taken into account at all what is the practice in America with regard to pipeline companies as to whether or not they should provide storage tanks at their point of outlet, or as to whether each refinery provides its own tankage and the pipeline company merely transmits to those tanks, what I am getting at is this, Mr. Morrison, to put it in another way, the pipeline company as a pipeline company receives oil for a number of people we will say in Turner Valley?

A Yes.

Q It brings it to Calgary?

A Yes.

Q It must there do something with it, either it is the practice for these people who desire to have it transported to provide their own tanks in which event the transporting company has nothing to do with it, or it is part of the

service of the pipeline company to have a central depot to which it brings oil and from which it pumps to the various refineries which are taking the oil from it?

A Yes.

Q Do you know which it is?

A That phase of it, sir, I have discussed with Dr. Boatright, and it was with reference to that phase of it that I said he would no doubt give evidence. I do not think I am competent to speak on the practice of pipelines as to that phase of it.

Q No.

A From the accounting point of view I dealt with the actual situation which we have here. If we have of course a situation where there were many customers then I would have considered that situation also.

Q What I am trying to get at at the moment in connection with your evidence is, is any part of your evidence predicated upon a conclusion with respect to pipeline practices elsewhere, no matter where you got that information?

A Yes, well when I say yes, it is from my discussion with Dr. Boatright but not from my own knowledge, so he would be more competent to speak as to that.

Q You came to the conclusion you should eliminate it?

A Yes.

Q Have you done that wholly from the standpoint of an accountant or have you, as part of your elimination, from what Dr. Boatright has said to you?

A Yes, partly.

Q That is what I mean.

A I have also, I have in the first instance done it as an accountant from the evidence before me and then I discussed

with Dr. Boatright as to the pipeline practices, it is more or less from both considerations that caused me to take my stand on the matter but I am not speaking of the pipeline practices from my own experience.

Q No, but the effect of your evidence then I take it to be is, as a chartered accountant you would have eliminated these anyway?

A Yes, that is correct, under the present circumstances.

Q Quite so.

A Not from the point of view of pipeline practices at all.

Q Quite so, all right.

Q MR. FRAWLEY: I just want to follow that up please, the Chairman has put to you that oil is gathered from a certain, a large number of wells in the Turner Valley?

A Yes.

Q We may have had this before but let us be quite clear about it, the Royalite Oil Company, you understand from your examination of the books, purchases the oil from all of the wells in Turner Valley except, eliminating the B. A.?

A And the Lion.

Q And the Lion?

A Yes.

Q They purchase the oil from all those wells?

A Yes.

Q When does it become the property of the Imperial Oil Limited, both from what has been said in evidence here and from what you have found out from the examination of the books?

A From the accounts it becomes the property of the Imperial Oil immediately.

Q Instantaneously it becomes the property of the Imperial?

A Yes.

Q It is bought by the Royalite from the Anglo-Canadian well we will say but as soon as it begins to move in the pipe---

A I am speaking now from what the records show.

Q Yes, what the records show?

A The records show the payment is made to the vendor and at the same time an entry is made charging the Imperial.

Q Yes, so that it is, with respect to the Imperial's oil, which is the great majority of it of course?

A About 70%.

Q That is at all times the Royalite is simply gathering and pumping Imperial's oils?

A That is my view.

Q So that the Royalite Oil Company is then simply a carrier of the oil?

A Yes.

Q Of the Imperial's oil?

A Yes.

Q Then they take it into Calgary and it goes at least on to the property of the Imperial Oil Company?

A That is correct.

Q Into the tanks which are adjacent to the refinery?

A Yes.

Q And so placed adjacent to the refinery for use, for access to the refinery itself?

A They were part of the refining plant.

Q Now with respect to the British American Oil Company, they go to various wells in the Valley under the direction of the British American?

A Yes.

Q Take the Brown Wells for instance?

A Yes.

Q And as soon as the oil starts to move it is the property of what company?

A It is the property of the British American Company.

Q Of the British American Oil Company?

A Yes.

Q And it continues to be the property of the British American Oil Company continuously until, for all times, and the Royalite is merely a carrier?

A That is in accordance with the agreement, Exhibit "90".

Q And similarly with the Lion Oil Company, there is one operation there, the Sunburst well has a contract with the Lion Oil Company?

A The Sunburst well, well I don't know of any contract but they purchase the oil.

Q There is some arrangement there?

A Yes.

Q And directly the oil begins to move at the tanks of the Sunburst Oil Company into the gathering lines of the Royalite Oil Company, it is the property of what Company?

A The Lion Oil Company.

Q And the Royalite Oil Company is a carrier of that for delivery to the Calgary refinery tanks?

A That is where it is delivered.

Q And then it is taken by, delivered by the Imperial Oil Company into the small lines and over to the Lion Refinery?

A That is correct.

Q Perhaps you have already said, but will you tell us when the period, the period when that rate began?

A Of which rate?

Q This fourteen thousand, I mean the rental.

A The rental on the 1st of May, 1938.

Q On the 1st of May, 1938?

A That is right.

Q How long prior to that had this process existed, which continues today?

A The agreement was entered into on the 18th day of December, 1936, and was effective as from the 4th day of October 1936.

Q I just wanted that to be sure, from the 1st day of October, 1936 or thereabout and all during 1937 until March, did you say March or May?

A Until May, 1938.

Q Until May, 1938, no charge was made by the Imperial to the Royalite for any storage space that they occupied in their refinery yards?

A That is correct.

Q Now one further point, the Imperial, the Lion Oil Company is not charged anything, no account is rendered that you have found from the Royalite or the Imperial to the Lion Oil Company as a reimbursement for the storage which the Royalite pays to the Imperial?

A No, certainly nothing from the Royalite Company. The only charge by the Royalite is the 15¢ transportation charge at the present time.

Q Is there any charge made by the Royalite Oil Company against the British American?

A No, not that I can see.

Q As a partial reimbursement of the rental paid by the Royalite to the Imperial?

A No.

Q MR. COMMISSIONER LIPSETT: Before this elimination?

A Yes.

Q Was the service that the Royalite Company performed for the Imperial Oil for this 15 cents, the service of transporting the oil from Turner Valley to the Imperial Refinery and to store it there?

A Well, Exhibit "29". You are speaking now of the B,A.?

Q No, I am speaking for the Imperial Oil Company?

A There is no Agreement that I have been able to find as to what it actually meant.

Q From the accounts the Royalite Company did the transportation direct to the Imperial Refinery at Calgary and paid for tanks to store it there for them?

A Since the 1st of May, 1938.

Q In the case of Lion Oils, for the 15 cents,all they do is not to deliver it to the Lion Refinery, or provide storage at the Lion Refinery for it, but they simply hand it over to the Imperial Refinery at Calgary?

A That is true.

Q And it costs then the Lion Oils this additional?

A 6 cents.

Q 6 cents?

A Yes.

Q To get the same service that the Imperial get for 15 cents, is that correct?

A That is correct.

MR. NOLAN: It is not the same service. The Lion Oils has their oil transported by the Imperial Oil from the refinery to the refinery of the Lion Oils, which is some distance away.

Q Yes, for an additional charge?

A For an additional charge, yes.

Q MR. COMMISSIONER LIPSETT: In the case of the Imperial, the Royalite sends it direct to the Imperial Oil Refinery for 15 cents and stores it there?

MR. NOLAN: Yes.

MR. COMMISSIONER LIPSETT: But when they come to deal with the Lion Oils they do not give them that service for the 15 cents, but they charge them an additional 6 cents?

MR. NOLAN: No, they give them additional service.

Q MR. COMMISSIONER LIPSETT: For which 6 cents is charged?

A I think we are all in agreement on that, 6 cents is the additional charge to the 15 cents, as compared with the Imperial and the Lion Oils. There is no contract with the Lion and the Royalite that I have been able to see, any written contract.

THE CHAIRMAN: Of course, it has to be borne in mind that even if Lion Oil Company had ample tankage to take care of their own oils without storage by anyone else, there would have to be a separate pipe line put up to that refinery. In the first place it would only be put there if justified by the volume, surely, and secondly, there would have to be Royalite gauges, say, at the other end of that tank line which would cost money and which would have to be taken into account like that 6 cents.

MR. FRAWLEY: Yes. I do not know whether it is proper to this, but the Lion Company, you remember, the interchange of statements between the Lion and

Mr. McLeod, in which he verbally made his submission then and there for this connection to the trunk line to build that line which he was prepared to build himself and stand the extra expense.

THE CHAIRMAn: Just in connection with that, while it is present in my mind, although it is not germane to this, Mr. Plotkins in cross-examination of Mr. McLeod had a very great deal to say in the form of questions which, in time, took the form of statements. Is he to be called under oath to verify what he was stating when cross-examining Mr. McLeod?

MR. FRAWLEY: Yes, he certainly is. He is being called. I have told him to hold himself available today, tomorrow and the next day.

THE CHAIRMAN: It is only proper to say that his statements to Mr. McLeod are not accepted by this Commission as being given in evidence.

MR. FRAWLEY: No, there is certainly that difficulty.

THE CHAIRMAN: All right.

Q MR. FRAWLEY: Is there anything else you want to say, Mr. Morrison?

A I was just referring to Exhibit "79", which gave details of the storage that was held for the respective companies in the yards, and dealing with the Lion Oils......

Q THE CHAIRMAN: It shows what, Mr. Morrison?

A It shows the storage held for the various companies, Imperial, British American, and Lion, at the beginning of each month for the period of from January 1st, 1937 to December 1st, 1938, and in that statement it will be seen that - it is only fair, of course, to point out that

these are storages as at this date, the 1st of the month - the only stock that is held for the Lion Oils is crude oil. Stock on hand 1st of May, 1938, there were 2,240 barrels. On the 1st of June there was an over-delivery to the extent of 30 barrels. That is to say, Lion Oils owed Imperial. The next item is on December 1st of 2,790 barrels. I merely refer to these for the purpose of showing the amounts involved in the matter of storage.

Q MR. NOLAN: Only, Mr. Morrison, on the 1st day of that month?

A I have so stated, Mr. Nolan. Now, in that connection, also I would like to refer to Exhibit "80" which is attached to Exhibit "79", and shows the tanks which are involved in this transaction of storage, tanks Number 3, 4 and 8, and on that statement Exhibit "80" is shown the total capacity in barrels, being 202,158. We have been referring to it as approximately 200,000 barrels. The total cost of those tanks was $143,719.19. Now the Company, the Imperial Company, have set aside in its records, certain amounts for depreciation, and these figures have been supplied by Mr. Taylor to Mr. Cottle, who in turn supplied them to me. I do not know whether it is correct for me to give those figures now. Mr. Taylor could check them.

MR. NOLAN: I have no objection.

THE CHAIRMAN: Go ahead.

A Then we will take them individually. Tank No. 3 which cost $51,163.15 has a reserge for depreciation as at the 30th of September, 1938, of $44,892.27.

Q What is that?

A Tank No. 3 which was built in June 1926 cost originally $51,163.15.. The Company has set aside for depreciation as at the 30th of September, 1938, $44,892.27, and the net book value is $6,270.88. Tank No. 4, built in June 1926, cost $51,153.16, has a depreciation of $44,883.46, and net book value of $6,269.70. Tank No. 8 built in September 1924, at a cost of $41,402.88, has a depreciation reserve of $41,190.93, or a net book value of $211.95. The total cost of all three tanks is $143,719.19, and a total reserve for depreciation of $130,966.66, leaving a net book value at the 30th of September, 1938, of $12,752.53.

Q MR. COMMISSIONER LIPSETT: And the original cost figure of the three was?

A $143,719.19.

Q THE CHAIRMAN: Does it appear what was the book value as at the date they started to charge the Royalite with rentals?

A Well, that could be readily ascertained, Sir. It would be slightly greater than the figure shown here. That is, these tanks, I think, are depreciated at the rate of 7½% per annum, and it can be readily ascertained what the depreciation reserve was as at the 30th of April, 1938.

Q MR. FRAWLEY: You can make that calculation quickly?

A We can get the figures from the Company.

MR. FRAWLEY. Well, Mr. Nolan, if you will bear it in mind to get those figures?

MR. NOLAN: I have not got those figures here.

MR. FRAWLEY: Would you have to go to Toronto

for them?

MR. NOLAN: Yes. Just what am I being asked to ascertain, so I will be perfectly clear?

MR. FRAWLEY: Would you mind telling Mr. Nolan, Mr. Morrison, what it is?

A The Commissioners would like to know the amount of the depreciation reserve on these tanks as at the date on which the rental charge commenced, namely the 1st of May, 1938.

Q MR. COMMISSIONER LIPSETT: Your figures are as at the 30th of September?

A Yes sir.

Q MR. NOLAN: The amount of depreciation and reserves on the three tanks as at the 1st of May, 1938, as disclosed by the books of the Imperial Oil Limited?

A Yes.

Q MR. FRAWLEY: Mr. Morrison, now coming back, perhaps it is an obvious question, what is the significance of you informing the Commissioners with respect to the depreciated value of these tanks now, or as of the date on which the charge was made?

A In order to compare the amount of the rental charged with the book value in the Company's books. If it is proper that there should be the amount of rental charged for these tanks.

Q Then what that amount should be?

A If there should be a charge, if it is proper that there should be a charge, there should be some basis of determining what that should be.

Q The charge was $35,000.00 per annum?

A Per annum.

Q Which started as of the 1st of May, 1938?

A Yes.

Q And the depreciated values now are what?

A As at the 30th of September, it was $12,752.53.

Q This whole question - what I am just turning over in my mind is the advisability or otherwise of you now discussing with the Commissioners this question of depreciation. You intend, of course, to do that as part of your testimony?

A We will have to do that, but not in connection with this item. We will have to go into the question of depreciation separately.

Q It is a sideline at the moment?

A Yes, and it deals only with the propriety or otherwise of charging a rental for the storage tanks in East Calgary.

THE CHAIRMAN: Is it not proper to take it and discuss it, if this witness is to discuss it, assuming his view is not accepted, that there should not be a charge by the Imperial against the Royalite - I say taking that for the moment and only assuming it - what should the proper rental be? Will someone discuss that with this witness?

MR. FRAWLEY: I certainly intended to ask Dr. Boatright some questions about that, and it was running through my mind whether I would also ask Mr. Morrison to do that after, probably, Dr. Boatright had finished. That is, just assuming that your elimination of this amount is not accepted by the Commissioners at all, but that they are desirous of ascertaining what the

proper amount should be. You have a method, I presume, of working out what the proper rate should be, have you?

A Of course, there is the question of policy first to be decided?.

Q How do you mean policy?

A In other words the Company has to decide whether or not it would be in their best interests to build their own tanks.

Q Would it not be for your purposes as an accountant, in working out the proper annual charge to make in their records for this amount of storage, you say first you have to decide whether it is good business to go out and rent somebody else's storage, which is the amount of 200,000 barrels?

A Yes.

Q Or whether they should build some storage of their own and then just carry the costs of it?

A That is true.

Q And I suppose assuming the latter one that it is good business for them to construct its storage, if they need it, you could very readily find out......

A Then we would have to find out what amount was necessary. Then, of course, you are immediately faced with the problem I have put forward, that I would say insofar as the Royalite Company, there is no need to provide for storage for the American Oil's oil, and there is no need to provide for storage for the British American Oil's oil.

Q That is you should have some, but not 200,000?

A No.

Q Let us assume for the sake of argument that we get down actually to the Lion Oil Company?

A Yes.

Q And this Company provides only for storage for the Lion Oil Company's oil at the moment?

A Yes.

Q That is one situation, and quite a different one from the other one of 200,000 barrels?

A Yes.

Q THE CHAIRMAN: How long does this contract with the B.A. run for?

A It is renewable from year to year. This particular one. But I have not looked at it since.

MR. FRAWLEY: I imagine it will run until they get their own refinery built and perhaps not long after that,

MR. HARVIE: But the other will.

MR. FRAWLEY: That is the carriage contract? That is a nice question.

MR. MORRISON: Clause 11 reads :

"Immediately upon the signing of this contract
"the transporter shall forthwith commence and
"diligently pursue the construction of the
"necessary pipe lines to connect its pipe line
"system with the storage tanks on the respective
"properties referred to in the first recital
"hereof, and this contract shall be in force
"for a period of one year from the date of
"execution and thereafter from year to year.
"After the expiration of four months from the
"date on which this contract comes into force,

"either party may terminate this contract by "giving the other party eight months' notice "of its intention so to do. It is understood, "however, that the producer will deliver and "the transporter will accept oil for transpor-"tation from the storage tanks of the respective "properties referred to in the first recital "hereof, as and when each connecting line is "completed thereto, and the terms of this "contract, so far as applicable, will apply "to transportation through each connected "line as and when such connection shall "have been made."

Q That is the clause?

A Perhaps at this time I should call your attention to a similar clause in the Agreement Exhibit "90". "This contract shall remain in full force and effect "for one year from the date hereof, and thereafter "until terminated as hereinafter provided. After the "expiration of four months from the date hereof "either party may terminate this contract by giving "the other eight months' notice in writing of its "intention so to do."

That is dated the 18th day of September, 1936.

THE CHAirman: It is not a very long term?

MR. FRAWLEY: No.

Q Now I think, Mr. Morrison, you might attempt - you might have a discussion about that and you might attempt to submit some evidence as to what, along various lines, proposing various alternatives to the Commissioners.

That is if it be accepted, for the sake of argument, that it is proper that Royalite should pay a charge for storage to the Imperial Oil, and then the matter of the Imperial, the British American and the Lion, and thirdly, you can work out some alternative figurations?

A I think that can be done.

MR. NOLAN: Are we agreed there has to be a terminal storage in every pipe line operation?

MR. FRAWLEY: Oh no.

MR.NOLAN: We are not agreed about that?

MR. FRAWLEY: No, we have not got to that at all. But I want to be of as much assistance to the Commission as I can, and submit these figures in the alternative.

THE CHAIRMAN: Mr. Morrison says that some of the charges, a considerable sum that has been brought into the accounts that he is now considering, should not be there. For my part, I want to be sure that they should be eliminated before I accept the elimination of them. In view of the possibility that acceptance is not made by this Commission, the alternatives should be discussed, in my opinion. I care not who discusses them.

MR. FRAWLEY: I suppose, Mr. Morrison, it means then, if your submission is not accepted, and something - first of all, if all of it were not accepted, to what extent would it mean re-writing of your accounts?

A It would be simple. It would be merely putting back into the account the $14,583.30, and changing the total cost per barrel to that extent, which, incidentally, is very very small, because we are dealing with a large

number of barrels.

Q That could be done very easily?

A Quite.

Q And it can be done then for any portion of the fourteen thousand dollars odd?

A Yes, any portion, any item that is to be charged back its effect on the statements can be fairly readily ascertained.

Q All right, that is fine.

Q THE CHAIRMAN: You say, in effect, they are paying out $35,000.00 a year which they are not justified in making payment of?

A Yes.

Q The payment is made but it is made to the parent company. It is in effect a gift?

A That is true. The fact it is to an associated company certainly changes the picture somewhat.

MR. NOLAN: Why?

A Because of the inter-Company relationship.

Q Ah.

THE CHAIRMAN: There might be great force in that?

A I certainly think so.

Q MR. FRAWLEY: At the moment we just have Mr. Nolan's sigh for his cross-examination. Now, Mr. Morrison, is there anything else you want to say about that before you pass on to something else?

A I think not. I am leaving the question of pipe line practice to Dr. Boatright.

Q And you want to go on with the rest of this statement?

A That completes the total Direct Operating Costs of the

Kenneth J. Morrison.

Calgary Trunk Delivery Lines $36,750.88, for the period that we are discussing. Then we have an expense under the heading "Shop Job Orders" amounting to $1,205.98, and then our next item "Direct Taxes" on Page 20 of the Report.

Q Can you tell us what these Shop Job Orders represent?

A I gave not got the details.

Q No, but what that is?

A That is an expense to the Pipe Line Department on orders done by the shop, and the.- uncompleted orders.

Q Monies that the Pipe Line Division has paid for work they have had done in the Royalite shop?

A Yes. Of course it must be recognized that the Company has certain departments, like a blacksmith's shop and a boiler house and these things which do work for many departments, and these are charged out to the various departments at a proper cost. This will be one item of expense for work done at the shop in respect of the Pipe Line Department.

Q Very well?

A Then we have our Direct Taxes. That is taxes paid which are directly attributable to the Pipe Line Department. Oil Gathering Lines, Calgary Trunk Delivery Lines, Pumps and Tanks, $5,744.32. Professional fees and expenses, $2,964.76, making a total of directx operating costs for the nine months' ended 30th September of $128,401.42. That is the amount of the total direct operating expenses of the Company in respect of the Pipe Line Department.

MR. NOLAN: I wonder if I might interject. It might assist. So far as my accountants are concerned,

they come very close to that figure on the Direct Operating Costs. The main difference between you is the question of the rental of those tanks, amounting to $14,583.00. Irrespective of that charge the only difference in money between Mr. Morrison's Direct Operating Costs and my accountant's Direct Operating Costs is $1,476.00.

A Yes, and that is readily explained.

MR. NOLAN: I am free to convey to the Commission there is no real difference on these Direct Operating Costs, the statement which has just been referred to by Mr. Morrison, with the exception of the rental item. I mean if, as we go along, we can clear the air a little, perhaps it will assist the Commission.

A Now, on Page 21, we begin to deal with the indirect expenses as we have commonly referred to them. It is in this part that probably there will be some difficulty, and in making it quite clear, because they are fairly involved.

Q MR. FRAWLEY: I do not want to interrupt, but would it be proper to say you are starting on the Indirect Costs on the top of Page 21?

A Yes, in respect of this particular period. The heading "Proportion of Utility Expenses and Service Units". I do not know whether, Sir, anything would be gained by ascertaining by agreement or otherwise the difference in the total of this with the Company figures. We will have differences in these percentages that we use.

THE CHAIRMAN: Here again we have the use of two words that are not very clear, Utility Expenses and Service

Units.

A The Utility expenses refer to expenses of their own utilities such as the boiler plant expense, and electric plant expense and things of that nature and the others refer to service units such as the forge and machine shop, and general plant expense. These are units that are used for working in the many departments of the Company.

Q THE CHAIRMAN: And associated companies?

A No, the Royalite Oil Company.

Q The Royalite Oil Company alone?

A Alone. There is the drilling of wells, the production of gas, and then we have the pipe line department as well. These are expenses that are common to all the various departments of the one company, which is the Royalite Oil Company alone, and then we have segregated that as between the departments. . .

Q The segregation has been made in here?

A In percentage. That is to say we have said, in this particular period there is 18.29067% of $112,968.27, or $20,662.65 of this expense applicable to the Pipe Line department. This percentage here of that total has been applied to the Pipe Line Department and that represents that figure.

Q MR. FRAWLEY: You are/not discussing how you arrived at that 18,29067%?

A No.

Q THE CHAirman: That is that labour business?

A Yes.

Q MR. FRAWLEY: I was going to ask Mr. Morrison to go into that a little more fully. But perhaps now I

should ask you this, have you been able to ascertain whether these service departments or utility departments of this Company make money on their own account?

A In some cases they do. You will notice certain items there in red which represent profits that are made in that particular department. For instance, we are looking at Page 21, forge and machine shop $2,896.74. That means the amount charged to the various departments exceeded the cost by that amount, and we are taking a portion of that profit and turning it over to the Pipe Line Department. If it had been a loss its proportion would have been borne by the Pipe Line Department.

Q THE CHAIRMAN: Just to put that again?

A In the forge and machine shop there is a credit of $2,896.74 which means that in the working out of their costs that the forge and machine shop had charged more out to the various departments than the actual cost of doing the work, to the extent of that figure $2,896.74. In other words, that means a profit in the machine shop for that particular period. That profit is being distributed, and a portion goes to the Pipe Line. Now then, admitting that it occurred as it probably will in some other years, that the machine shop may have operated at a loss, that proportion of the loss would be charged to the Pipe Line Department.

Q When it appears in red, it means that that particular Department, say trucks and tractors, has made a profit?

A Yes.

Q MR. FRAWLEY: That is the use of red in this particular instance.....

A Yes, because it will be realized in the main these statements are expenses. Anything that is in red - and

these are usually in black because there are more of them - in other words we could have put these credit figures in black with brackets around them, but it makes it simpler to put it in red figures.

Q You have explained and you have taken pains, and I am sure you will continue to take pains to explain the use of the red ink, that it is not uniform?

A No, it is not uniform.

Q In every statement?

A We will have to take each statement of its own.

Q Quite so.

(At this stage the Hearing was adjourned until 2.P.M.)

(Go to Page-2147).

(Col. Lee Redman appeared on behalf of certain companies interested in the area East of Turner Valley).

MR. FRAWLEY: Mr. Chairman, I think I will now interrupt the evidence of Mr. Morrison by giving way to Mr. Redman who is here representing certain companies interested in the area to the East of Turner Valley and he desires to offer the evidence of one Joseph S. Irwin, a geologist, to tell the Commission something about the area lying East of Turner Valley and I think it is well that we should not close the life of the field portion of the inquiry without such evidence and I am therefore calling now Mr. Joseph Irwin.

THE CHAIRMAN: All right.

JOSEPH S. IRWIN, having been first duly sworn, examined by Mr. Frawley said:

THE CHAIRMAN: You are appearing, Mr. Redman?

MR. REDMAN: Yes.

THE CHAIRMAN: Whom do you represent?

MR. REDMAN: I am representing companies interested in this area immediately East of Turner Valley, principally the Sentinel Oils and Anglo-Inidian Oils.

Q MR. FRAWLEY: Mr. Irwin, you are a geologist?

A Yes.

Q Will you state for the record your qualifications and experience before you undertake to give us this evidence?

A Yes. I was, I got my degree in Mining Engineering at the School of Mines at the University of Missouri in 1912, I got the Baccalaureate Degree, and in 1922 the Degree of Engineer of Mines, and following that time I was instructor in geology for one year at the Missouri School of Mines and then following that two years of instructor of geology at Lehigh University and then after that I went into

petroleum geology with the Carter Oil Company for one year and following that I was in the American Army for a year and a half and after that I went back into the petroleum geological work in which I have been engaged ever since, first with the Producers and Refiners Corporation for about ten years, no, not quite ten years, about four or five years, and then after that a consulting geologist in the Western United States and in Canada; the last ten years in Canada as consulting geologist.

MR. FRAWLEY: Very well.

Q MR. REDMAN: Mr. Irwin, have you had occassion to examine the area immediately East of the Turner Valley field from a geological viewpoint?

A Yes, I have examined that area; in fact the entire area along the front to the Eastward of the foothills belt; I have examined also the foothills belt but especially in this connection of interest the area in front of that, that is to the Eastward of it because I have always felt that such areas immediately in front of thrust fault areas may have special value for oil and gas possibilities and I have examined this area particularly during the past five years.

Q What is the extent of that area immediately to the East?

A Well the type of area extends entirely along the thrust fault belt from down in Montana to the Peace River area, a distance of some 800 or 1,000 miles, and this particular area in front of Turner Valley is just one small portion of that general area.

Q And have you particularly examined the area immediately to the East of Turner Valley?

A I have.

Q That is the first structure we will say to the East?

A Yes, I have done that, not only on account of my own interest but starting about four or five years ago I had occasion to examine it for clients.

Q What is that area referred to so that we may recognize it?

A Well the area, that is of special interest to me was the New Valley - Calling Valley area and it has also been called by Dr. Hume in his publication the Priddis Valley, so it is known at Calling Valley, New Valley or Priddis Valley.

Q On this map, which I think is Exhibit "32" would you show us approximately where this is?

A The area extends from the Black Diamond vicinity.---

Q That is the Village of Black Diamond?

A The Village of Black Diamond to Sheep River Northward, North Westward to the New Valley area where the New Valley well here is drilling and on North Westward to the vicinity of Priddis, this light coloured area in here is the Valley and that is the general locus.

Q Can you tell me if any pipelines are in that area or accessible to it?

A Well that area is traversed by three pipelines, these old pipelines and two newer pipelines, this is the older pipeline which traverses the Southern end of the area near Black Diamond and those other two also traverse it in the Central portion.

Q Now, Mr. Irwin, will you let us have your opinion as to the potentialy of this area as being a petroleum producing area?

Q THE CHAIRMAN: What is the area which he is immediately describing in acres if he knows?

A I would say that probably covers an area of some 20 to 30

thousand acres, about a Township or a Township and a half.

Q MR. REDMAN: Just go ahead, Mr. Irwin, and give us your opinion as to the potentialities of this area and your reasons?

A Well this area which lies in a long narrow belt entirely in front of the highly folded and thrust fault belt in which Turner Valley is located, Turner Valley and other structures extend all the way from this belt for a distance of several hundred miles and the strata rises out of syncline which is generally known to geologists as the Alberta syncline; the strata rises out of that towards the thrust faulted belt.

Q Towards Turner Valley?

A Towards Turner Valley and other similar structures and that is the area of general, of this interest, particular interest. Now while that may be considered a zone of general possibilities, it is not to be supposed that oil and gas would occur entirely throughout that trend but that it might be realized on certain high points along that, if any, and the work of the geologists would be to try to locate such specially high points. Now wherever the push from the West has been particularly well developed you would expect salients to occur and the New Valley-Calling Valley area, happens to be one of those salients.This map which was not particularly prepared for this, it has other information on it which is not relevant, but it is the same sheet as that there, used as a base, Turner Valley being located here and it being a salient with respect to the formation to the South, New Valley in this position still further offset and still further a salient with respect to Turner Valley and Calling Valley still further out, suggests that it is one of

these localities, that is this New Valley and Calling Valley area where the structure might be especially high.

MR. FRAWLEY: We had better produce this map.

A I would like to prepare another one to take the place of this, omitting the irrelevancies.

Q Very well, but for the time being we will put this in and have you a legend which shows, blue?

A That is some of the irrelevant data, that has acreage on there, it is merely this Western part.

THE CHAIRMAN: That will be Exhibit "91".

(MAP PRODUCED BY THE WITNESS IRWIN HERE MARKED AS EXHIBIT "91")

Q THE CHAIRMAN: Now dealing with it as Exhibit "91", can you more clearly establish, Mr. Redman, what the witness has been showing. He points to something "here" and something "there" will you clear that up?

MR. REDMAN: Yes.

Q MR. REDMAN: Mr. Irwin, will you point out on that map where the salients occur of New Valley and of Calling Valley, probably you can mark it, my Lord, some way.

THE CHAIRMAN: Is it marked there?

WITNESS: Yes, it is marked, this being Turner Valley which is the salient with respect to this area, the formation from up around here and then back.

Q Don't say "this area"?

A Turner Valley, the immediate area of the Turner Valley Field is a salient, that is it runs through to the East with respect to the area to the South, that is using

certain formations, outcropping as a yard stick or a measuring stick. Them the New Valley structure lies still further to the North East and is therefore a salient to the Turner Valley area.

Q Now is the Turner Valley area marked on this map?

A Yes, it is.

Q It is marked in ink?

A Yes.

Q New Valley is also marked?

A Yes.

Q Now the next thing you mentioned?

A And Calling Valley is, might possibly be considered with New Valley, or actually is I believe a salient still further to the North East with respect to both Turner Valley and New Valley.

Q And that too is marked on the map?

A Yes. Now I have been dealing with these localities in the longitudinal or trend direction, in the North West, South East direction. Now then speaking of them in cross-section, traverse direction, from North East to South West, we have evidence of higher structure which would make conditions generally favourable to oil and gas accumulation, exhibited by the dips that can be seen along the traverse streams such as the Highwood River and the Sheep River; those dips show that the bottom of the syncline, of the Alberta syncline, the lowest point in the structure lies some distance to the East, to the East of New Valley and Calling Valley, some 2½ to 3½ miles and that the stratified rock rises out of that syncline towards the area under discussion. Now we also have sub-surface evidences of that rise because if we take the

situation at the Arco well which is to the east of this syncline we find that the Maddison limestone was encountered there at a depth of 8750 feet and the surface elevation being approximately 3600 feet, the elevation of the limestone at the Arco well would be 5160 feet below sea-level. Now if we carry the section down according to the dip which can be seen on the Highwood River and the Sheep River, we find that lime should be expected at its lowest point at the bottom of the syncline or trough to be an elevation below sea-level of about 6500 feet, that would be approximately 1400 feet deeper and I think that all along that syncline from North West to South East that the Madison limestone, using that as a datum, would lie somewhere from 6300 to 6600 feet below sea-level. Now then carrying then the section up in accordance with the observed dip, we know it rises and if we draw a cross-section in the vicinity of New Valley and put in the proper thickness of the formation from the surface down and even allowing greater thicknesses for them because these formations do thicken some to the West, we find that the Madison limestone should be at an elevation of about 4000 feet below sea-level, in other words it would have risen from the bottom of the syncline going Southward in a distance of about 2½ to 3½ miles, about 2500 feet and that would permit very definite migration of oil and gas up that dip until it is trapped to the West by some downward bend or by some cut-off or truncation of the formation which have been pushed over up into the thrust fault belt occupied by Turner Valley and other similar structures.

Now we have some evidence of the fact that the structure is low still further to the West because that

is, when I say still further to the West I mean to the Westward of the high point that we have carried the formation up to, - as I said about 2500 feet higher than they are in the syncline and that information is afforded by the record of the New Valley well, which at its present depth is about 8430 feet, and plotting the scale, to the same scale, the depth at which the New Valley well, - and the New Valley well is located at this point, -

Q THE CHAIRMAN: How would you describe that?

A About the centre of that general area.

Q MR. REDMAN: On Section 6, in what Township?

A Township 21, Range 2, West of the 5th Meridian.

Q Six is it?

A The South West corner of Section 6.

Q THE CHAIRMAN: As shown on Exhibit "32"?

A Yes, we find that the formations are then very low again because that well is now in the lower part of the Benton or Colorado shale and it would have to go at least 1500 feet deeper to get to the lime, and that would mean that the limestone would be at a depth of about 9800 feet and the surface elevation approximately 3900 feet so that then the elevation of the limestone, which we are using as the datum would be about 6000 feet below sea-level, or in going from North East to South West in the cross-section we find the lime in the bottom of the syncline approximately 6500 feet below sea-level, we carry it up, according to the dip of the stratagraphic section, about 2500 feet higher than it was in the bottom of the syncline, and then we find it back down low again, somewhere around 6000 feet below sea-level, so that at the

[illegible]

[illegible]

[illegible]

[illegible]

higher point where the lime is about 4000 feet below sea-level we have the general locus of conditions favourable to oil and gas accumulation. Now whether that structure came there as an anticlinal, or whether it is a truncated, homoclinal or monoclinal structure why we have conditions generally favourable to gas and oil accumulation because we have a structure higher, and here and there along the surface above those conditions you find anticlinal structures which support that idea.

Now aside from the structural evidence which I have attempted to show is favourable to oil and gas accumulation, we have the record of the New Valley well which obtained some oil in the cardium sandstone. Now this sandstone does not carry oil in commercial quantities in Turner Valley but here on this structure, and as I believe on the Westflank of this general structure,it does carry oil as indicated in this schedule of wells drilled for oil and gas to 1938 published by the Department of Lands and Mines in the Province of Alberta, a very recent publication.

Q MR. REDMAN: We might have that as an Exhibit.

THE CHAIRMAN: Any objections?

MR. FRAWLEY: No.

(BOOKLET ISSUED BY THE DEPARTMENT OF LANDS AND MINES IN THE PROVINCE OF ALBERTA ENTITLED "SCHEDULE OF WELLS DRILLED FOR OIL AND GAS TO 1938", PAGE 48, HERE MARKED AS EXHIBIT "92").

WITNESS: Page 48.

Q THE CHAIRMAN: Just one page?

A Yes, under the description of the record of the New Valley well it gives a considerable mass of information which I will not refer to but the thing which I point out is that

it states that the cardium sandstone was encountered at 6657 feet to 6780 feet and below that it states that oil was encountered at 6230 feet, brownish green show; at 6525 feet, dark green; 38° gravity, the word "oil" is understood there, although it does not state it, and at 6657 feet, grass green, 35° gravity, 35°, rose 260 feet, so that oil in measurable quantity was found in the New Valley well. Now 6657 is given as the depth of the cardium sandstone above there so that we conclude that the oil which rose 260 feet was in the cardium sandstone, at the top of the cardium sandstone.

Q THE CHAIRMAN: What is the date of this publication?

A The date of this publication, the front says "Schedule of Wells Drilled for Oil and Gas to 1938", I received this in January or during this month.

Q I suppose that means to the beginning of 1938?

A To the beginning of 1938.

Q And what is the history of this well since then?

A Well the well has been drilled since then to 8430 feet, and it has been reported that oil has risen as high as 1800 feet or 2000 feet but that is a report only and I do not know that, I assume it is approximately correct but I have not seen it personally.

Q I see. Do you know anything about the well, you are using it as the basis of an opinion?

A Yes.

Q Do you know anything about its present operation?

A The well is now standing suspended with the casing set but not cemented at 8430 feet and it is to be assumed that they intend to drill it deeper because it is in a condition to be drilled deeper.

A That is all I have to say.

Q THE CHAIRMAN: Any record of any other wells in the areas discussed?

A We have a record of the Sentinel further to the South, at about the South end of this particular locality.

Q The Sentinel?

A The Sentinel well. It is suspended at the present time but has been drilling recently, and that well, I understand, has its present bottom which is 7,350 feet in the cardium sandstone. That same publication also gives a record of the Sentinel well.

Q MR. REDMAN: On Page 48?

A On Page 48, if I may refer again to that please. On the same Page 48 the Sentinel well, at this time the greatest depth mentioned is 5,850 feet. It is now approximately at 7,350, and that shows gas showings here at 2,890, 3,580, 3,980, and oil showings at 4,255 and 4,870, the last depth being queried.

Q MR. REDMAN: This area to which you have been alluding, to make it thoroughly clear, is it immediately against the Turner Valley structure? I mean do the two meet?

A I would say that it is immediately - in other words I would say that it is in part, at least, over-ridden by the East flank of the Turner Valley structure. To the North it may be other structures than Turner Valley come in, but they are of a similar type, and they over-ride to the West flank which is the general structural trend.

Q I thought you stated this was the first structure in front of the thrust fault structure?

A It is the first and as far as I know the last. I have seen no evidence of faulting to the Eastward of this.

Q What can you say about what has happened in other places such as this, the first structure in front of the thrust fault structure?

A In other localities I know.......

Q I mean is this regarded as, the first structure, as a structure in which oil may or have been a good place to find?

A I think that would be generally considered by geologists as a favourable place to look for oil, and I might point out one locality that I am familiar with in Wyoming, in Southern Wyoming, known as the Clay Basin Structure, which lies immediately in front, but not over-ridden, and this Clay Basin field has produced considerable quantities of commercial quantities of gas, and that gas has been taken through pipe lines to Salt Lake City.

Q I think you have told us that going from North East to South West, you have made an examination of this area and you find an elevation, and a Western downward movement to the extent of about 2500 feet?

A A rise of 2500 feet, and then a depression of somewhat more than that.

Q Your conclusions from that, and from the presence of oil in the New Valley well, and of showings in the Sentinel well is what?

A Well my conclusion is that this type of structural cross-section, the feasibility of a structural high on that cross-section, in the longitudinal direction

with the showings, definite showings of oil and gas particularly in the New Valley well, that it is in an area that may be considered to have good possibilities for oil and gas.

Q DR. BOATRIGHT: Mr. Irwin, I believe you stated that area which you considered amounted to some twenty or thirty thousand acres, I would like to ask you if that is within this so-called New Valley structure only?

A Well that would be within and adjacent to the higher or upper portion of it. It is an area of some twelve or fifteen miles by possibly two or three miles wide. In fact it would take in more acreage than I mentioned.

Q Is that in the so-called New Valley structure that that would cover what you consider to be the New Valley structure?

A That would cover it, yes.

Q It would cover the New Valley,- Calling Valley. Do you separate these two or do you consider them to be the same structure?

A I do not separate them because they might possibly go into each other and be one. Or they may be separate, one from the other, and be a stagger, or what we call in eschelon in geological language.

Q Approximately how much time have you spent in this area, in this New Valley-Calling Valley area. I mean in actual field work?

A I have probably spent actually a total of three or four weeks, but that is spread out over a period of four or five years..

Q Have your studies indicated there is any considerable faulting in that area?

A Yes. After you get West of the Paskapoo outcropping, which I would describe as the East Rim rock of the structure, when you get out into the basin which is generally known as Calling Valley, and New Valley, wherever you can find any outcrops you find they are crumbled, suggestive of faulting.

Q And is it your opinion that faulting continues with depth?

A It is, yes,,and that is borne out by the fact that the New Valley well went through several faults, one of them repeating the cardium sandstone. We get it first at 6,750, and then they got it at 7600 or 7700, so that shows a deep-seated faulting condition.

Q In spite of the evidence of faulting, you still feel that the structure has definite oil possibilities, is that correct?

A Well I do, because I think that these deep-seated faults are on the West flank, just as we have deep-seated faults on the West flank of Turner Valley, such as those penetrated by all the West/flank wells, especially the Anglo-Canadian, which is far down on the West flank, and Okalta 6, which went through a number of faults before it went into the limestone.

Q In the New Valley - Calling Valley - is there a continuous series of dips that you have explored personally?

A Yes.

Q Indicating a definite structure is there?

A On the East side.

Q How about the West side?

A On the West side you have it over-ridden by younger

formation, thrust over from the West. So that you do not find that Paskapoo rim rock. You do not find that on the West side. Therefore, I am not claiming that the structure is an anticline although I have admitted because of the low structure indicated by the New Valley well, which I think is on the West flank of this front line structure, and also the Sentinel well......

Q How about the Arca well, where is that located with respect to the New Valley structure?

A That was across this incline, and is located down South West of High River, right near the Fifth Meridian, in Township 18, Range 1, West of the Fifth Meridian.

MR. REDMAN: As shown on Exhibit "32".

Q DR. BOATRIGHT. That exhibit does not have the two structures marked in, and I believe the exhibit which you introduced does have it.

A Yes, mine does have the Arca well. The Arca well is noted on this one. The Arca well is located at this point in Township 18, Range 1, West of the 5th, in Section 24.

Q Approximately how many miles from what you consider to be the end of the New Valley structure?

A It would be about 12 or 14 miles.

Q In what direction?

A In a South Easterly direction.

Q Then the Arca well itself only gives indication of the area conditions, and does not have any reference to the New Valley structure itself?

A I think it does, although I am considering the Arca well, and running a North East and South West section

along the Highwood River, and only using that and the type of section which we get here. We have other evidence of that same type of section on Sheep River, but we do not have the sub-surface, the deep-seated control there, because no well has been drilled there. We know where the limestone is,with respect to that well because we have a revision of the soil and the depth at which it penetrated the limestone. And then we have a series of very good outcrops and formations showing a dip to the South Westward from that well which would carry that limestone down, I estimate it carries it down some 1400 or 1500 feet.,What I am trying to get at there is how deep the limestone may be in the syncline, in that Alberta syncline. I carry it down, according to the dips, most of which are shown here, 1, 2 and 3 dips. I estimate it goes down about 1400 feet in that distance of five or six miles.

Q What criteria do you have that it rises on the other side?

A Going on up the Highwood River we find dips in the opposite direction. In other words, dips to the Eastward first zero, flat, and then 2° East, and 4° East, 9° East 14° East and finally 30° East. On Tongue Creek we find the same high dips, 20°, and on Sheep River we find 25° Eastward, and then 10° Eastward and then 5°, and down to 1 on the bottom of the syncline. All along this East rim of this New Valley-Calling Valley structure, we find the dips of 20 and 25 degrees to the East. So I have set up a cross-section.

Q In other words, then, this Area well that you use together with the interpretations of the stratographic

relations going towards the Turner Valley field indicate a syncline between the Arca well and the Turner Valley field, is that cirrect?

A That is correct.

Q And the evidence of the surface formations and the outcroppings along the various rivers to the North, indicate that syncline runs in almost a due North or slightly North West direction, out in front of your Calling Valley-New Valley structure, is that correct?

A That is correct, and that evidence is shown on Tongue Creek, which is here, and on Sheep River, which is here. There is the exact point, or at least very close to the exact point where that syncline occurs, because there is the West sip and there is the East dip.

Q And it was information obtained from the top of the lime in the Arca well plus the dip interpretation which you obtained along the Highwood River, which gave you an estimate of minus 6500 feet for the top of the lime in the bottom of this syncline which runs along to the East of the Turner Valley field, and the New Valley-Calling Valley structure, is that correct?

A That is right. Now then, this syncline may rise or fall, so that that 6600 feet may not be the exact depth of it at this point. There is no evidence of any great rise or fall along that syncline. I assume, therefore, that since the dips generally are similar in here to what they are here, that the depth of that syncline will be approximately the same all along here.

Q Do you have any geophysical information concerning that area?

A No, I have not.

Q I believe you mentioned the New Valley well, and I wonder if you would point out on the map where that is with relation to the two structures you were discussing?

A It is located on this map and marked as the New Valley well in the South West corner of Section 6, Township 21, Range 2, West of the 5th Meridian.

Q And with relation to the New Valley structure, where is that well located?

A Well I would say it is on what might be called the New Valley structure. When we are naming the structures we are being very sketchy, but it is in the general trend of the New Valley structure.

Q Is that within the area which you consider as being possible in that area?

A Yes, it is. I think it is in the general area, but I think that it is comparatively low on that structure as indicated by the great depth at which it is encountering the formation, which is part of the evidence that I cited to show that the structure is low to the West of a point at which it is high.

Q Where is the New Valley well located with respect to the North and South ends of the New Valley structure? What you consider to be the possible productive ends of the New Valley structure?

A Well we do not know where the end is, of course, just like we do not know where the South end or the North end of the Turner Valley is, yet. But it is along towards the Southerly part of it I would say. But I

know that the evidence of that structure extends at least six miles South and on past the Sentinel well which is located here, near Black Diamond, and it extends at least 10 miles further North, as indicated by the unbroken rim rock.

Q It is your feeling that as far as the New Valley well is concerned, it is on the West side of the New Valley structure, is that correct?

A Yes, that is my idea.

Q And you are considering then really the New Valley structure as being the West flank of the Calling Valley Structure, is that right?

A Well that might not be correct, because as I have said before it might be one structure or again they might be two staggered structures.

Q The reason I am asking this question is it looks to me, looking at the section of the structure, it does show to be right in the centre of your so-called New Valley structure?

A Well that is not intended.

Q In other words, your New Valley structure as outlined in the dotted lines might not or might conform with your ideas of the structure there?

A Yes, it should not have been separated as it is there.

Q Were you able to find definite evidences of closure at both ends of either the New Valley or the Calling Valley structure?

A No, I have not, and of course, I would like to find that. But I did have some indirect evidence of that and that is indicated to some extent on the map by G. S. Hulme. That could be submitted too.

MAP IN QUESTION IS NOW MARKED EXHIBIT "93".

Q You were referring to Exhibit "93, I believe?

A This is a map - and I have also substantiated it by my own investigations - it shows a narrow portion in the South. In other words, the East rim, this yellow piece is in closer; up to the Northward here and it runs further to the East. It extends further, bellies out so to speak. It is very indirect evidence, but it suggests a possibility of a high because of this broader nature of the structure in the vicinity of about 4 miles North of the New Valley well. The New Valley well which is here, being located at the extreme edge.

Q Does that condition also obtain to the South and East of the New Valley well?

A The East rim runs to the South until it gets down nearly to the Highwood River, and there it bends around further to the West, suggesting a tendency to close on this end, just as the Turner Valley structure closes to the South.

Q On this area, do you have the same condition that you mention here of which you used as criteria South, showing it extends North and West of the New Valley well? Does that same condition obtain to the South?

A It does to the extent of having the East rim which is shown by the depth on the East flank of Turner Valley along the Highwood River. You have the same formations pulling in here and pulling in here, near the New Valley well as shown on this map, and coming on down and swinging around still further to the West and going

[illegible]

[illegible]

[illegible]

[illegible] to [illegible]

[illegible] one of [illegible]

[illegible]

further South.

Q How do you interpret that information in building up your idea of the New Valley structure?

A Well I would interpret that East flank situation as rather strongly in favour of a South closure.

Q In other words, that bending in to the West indicates a closure at that point?

A Yes.

Q You used that criteria for the extreme South end. Why is that not true, there, even with the New Valley well then?

A Well I think that may be true. There is some tendency to close the area to the North of the New Valley well, near the New Valley well, and going further South of the New Valley well, a tendency to close again to the South, and a continuous setting in to the West, and a continuous slower closure. That is sketchy I admit.

Q It is not a definite criterion?

A It is not definite.

Q Have you examined the various faults through that area, closely on the surface?

A I have not examined the faults too closely, no.

Q And I believe that there are numerous areas, local areas throughout the New Valley and Calling Valley structures which contain gas seeps, is that correct?

A Well now, I have not seen those.

Q You have not seen them?

A No, I have not seen any seepages, but I am not sure that they are petroleum or hydrocarbon gas.

Q I see, and you did not use that evidence in arriving at your decision then as to whether or not it is possible?

A No.

Q This New Valley well then, other than showing the top of the lime at a greater depth than would normally be expected from the surface interpretation of the stratigraphic relationship, has no bearing on these two structures of which you speak, the New Valley and Calling Valley structure, is that correct?

A No, I do not think I follwed you all the way through that. Now if you would mind---

Q I know it is involved.

A No, it is my fault I am sure but I will just admit it.

Q In using the New Valley well as the means of interpretation your decision was that it showed an abnormal top of the lime?

A With respect to the area immediately to the East.

Q That is what I wanted to get.

A Yes.

Q Now this Sentinel well, where is it located with respect to the Turner Valley-Calling Valley structures?

A It was not put on here but it is immediately, a half a mile West of the Village of Black Diamond on the East bank of the Sheep River and it is located right in Section 4.

Q Section 8, that is my recollection?

A Section 8, yes, here is the Township corner, 6, 7, 8, it is located in the North West corner of the North East quarter of Section 8, Township 30, Range 2, West of the 5th Meridian.

Q And where is that well located with respect to the New Valley well?

A It is four miles South and a mile and a half East of the New

Valley well.

Q And in that well I believe you said that they had encountered the cardium sandstone, which is a rather definite marker in the Benton horizon, is that correct?

A Yes.

Q And on the basis of that cardium sandstone where do you estimate the top of the limestone will be right in that well?

A Well if there are no repititions the stratigraphic depth below the cardium, runs you around 2500 feet, 23 to 2500 feet.

Q And they encountered the top of the cardium where in that well?

A I believe that was at 7212.

Q 7212, making the probable lime top, providing the sections run uniform, at 9712?

A Something like that. I would not care to say that, that is my estimate, but it is in proximity to it.

Q Did the New Valley well encounter the top of the lime?

A No.

Q It didn't encounter the top of the lime?

A No.

Q Where did it get the cardium sandstone?

A It got the cardium sandstone at 6657 according to this Provincial Schedule.

Q Did I understand you to say that that was repeated in that well?

A That was repeated and that is beyond this publication because this only goes to the end of 1937 and it was found again at a depth of some 7700, approximately.

Q At about 7700?

A Yes, a little below 7700 feet.

Q Then if there were no further faults in that particular well that would have thrown the top of the lime approximately 10,000 feet?

A Yes, I think I mentioned somewhere around 9800 feet, and that is, that throws the structure very low to the West of the area in which it should be much higher according to the deductions from the dip.

Q Are there any other wells in that area?

A There are no other wells in that immediate area, to the Eastward of the Turner Valley structure.

Q And are there any other wells in the New Valley-Calling Valley area, which you have outlined on your map?

A No, there are no other wells in that area.

Q There have been no wells completed there or that are drilling at the present time, as I understand you to say, that the New Valley and Sentinel wells are closed down at the present time?

A Yes, they are, I take it suspended because they are in a position to continue drilling.

Q THE CHAIRMAN: Which.

A They are in a logical condition to continue drilling and have been drilling comparatively recently.

Q And so far as you know then these are the only two wells which have ever been drilled in that area, is that correct?

A Yes.

Q Do you know of any other wells projected for that area?

A No I do not.

Q Well in your opinion do you feel that that field referring specifically to the New Valley structure definitely has oil possibilities?

A I feel that it has possibilities, yes.

Q In your opinion none of the information which has been derived todate would condemn the area?

A No.

Q And if you had a client who was interested in drilling in that area you feel that from a wild cat standpoint that would be a good depth insofar as oil possibilities were concerned?

A Yes I do.

Q There is one other point I would like to bring out with reference to those pipelines, in the event that the area which you consider to be possible oil territory, how is that area related to the pipelines which transverse that general area?

A Well I will refer to this Exhibit "91", these pipelines, according to the map are shown as transversing that area one of them, the old pipeline is printed on this map in a dotted line and marked "natural gas and gasoline main". It crosses that area about two miles East of the New Valley well, it crosses it also about two miles to the South East of the New Valley well and the other two pipelines are occupying the same right-of-way, going immediately West of the New Valley well, that is along the road allowance, about three hundred feet west shown by these red lines and it cuts across the middle of the so-called Calling Valley typographic depression and also the Calling Valley structure so they both traverse that area.

Q Then in the event of these two structures, or a single structure whichever it may be, were to prove productive those pipelines would probably be called upon to handle some of the oil, is that your opinion?

A Yes, I would think so.

DR. BOATRIGHT: I believe that is all.

Q TO THE CHAIRMAN: Have you reached the stage where you would attempt to estimate the reserve of oil in this area which you have been discussing?

A No, I would not, I think that would be premature.

THE CHAIRMAN: Mr. Nolan.

MR. NOLAN: Dr. Link would like to ask the witness a question.

THE CHAIRMAN: Certainly.

Q DR. LINK: In reference to this area, Mr. Irwin, you would classify it as wild cat.

A Yes I would.

Q And therefore it would not be regarded as an area on which anyone would think of estimating reserves, is that right?

A That bears out what I have just said, I would not estimate them.

THE CHAIRMAN: I wonder if we could have "wild cat" defined?

DR. LINK: A wild cat is an area in which no oil has been found.

MR. NOLAN: Perhaps the witness should define it.

Q DR. LINK: Oh, will you define it?

A I would defer to you.

THE CHAIRMAN: If you define it perhaps the witness will agree with you.

DR. LINK: Wild cat area is an area in which

oil has not been found todate, and includes areas which may, from a geological stand point, be regarded as possible oil areas. Now it is quite distinct from that possible area on the Westflank of Turner Valley, do you agree with that, Mr. Irwin?

A I agree generally with that, yes.

Q Now supposing there were, I hate to say "supposing" all the time, supposing there was a structure like this,and I agreed with you it has good possibility, and all the other geologists in Alberta agreed it has possibilities, what are the statistics with respect to the possibilities of hitting oil on a wild cat structure according to the A.P.I. figures?

A I imagine you have those in mind and I do not but I have, I have heard it said before that it is stated that one in twenty is pretty good.

Q The last ones I had were 40 to 1 against finding oil, now they may be getting better. Now with respect to your interpretation---

Q THE CHAIRMAN: Do you agree with that, 40 to 1, Mr. Irwin?

A Well no, I do not agree with it but I have not anything to offer.

Q DR. LINK: Would 20 to 1 be all right?

A Well I would not say it would in this case. I would in general, I think we have some evidence that possibly lifts this a little above the general average because oil has already been found in a well on it.

Q THE CHAIRMAN: What would you place these structures you have been talking about at?

A Well definite figures are rather out of place. I think it is just about the same as trying to make an estimate of the reserves but I would say that it is in a preferred category because of the fact that a well drilling on it has measurable oil, measured in so many feet in the hole.

Q Will you put your ordinary wild cat at 20 to 1 chance?

A Yes.

Q As I understood you?

A Yes.

Q You say it is better than that, but to what extent?

A Well I would like to be comparative there and say "better". I would not care to assign a mathematical ratio. I think I would just be trying to say "yes", when I did not know.

Q DR. LINK: The showings in the New Valley well are not commercial, are they?

A That I do not know, they may not be.

Q They have not run their pipe past the cardium sandstone?

A Yes, they have run it past the cardium.

Q I remember they claimed about 100 barrels a day at that time with very little gas, in other words, it had to be pumped at a depth of 6700 feet, would you regard that as a commercial venture?

A Oh I would not think so, I merely think it is good indication?

Q Just an indication?

A Yes.

Q Now let us take our Jumping Pound structure and other structures similar to Turner Valley, 24 miles due West of Calgary, when we drilled our last hole on that structure we also encountered---

THE CHAIRMAN: Mr. Link, before you proceed---

DR. LINK: I am going to ask a question there.

THE CHAIRMAN: Before you go on with that question, do you say there is no gas to lift the oil which was there at 6700 feet?

A No.

Q Can we find out whether it is likely gas will be found at the lower depth if the well is proceeded with, as the witness says it may be.

Q DR. LINK: That gas might be used for that particular sand.

A No, because there would, you would have to perforate the pipe if you cement it.

MR. NOLAN: What the Chairman means, if you go further down, continue drilling, is there a possibility of encountering more gas?

DR. LINK: Yes there is that possibility.

Q DR. LINK: Now with respect to the Jumping Pound structure, you remember we encountered gas and oil at a shallow depth there?

A Yes.

Q And then we abandoned the well after passing through the sole fault, do the indications which you get at the top have anything to do with the ultimate results in that well?

A I would say they would have very little to do with what you would get below the sole fault.

Q And the New Valley well has shown that there are possibilities of other faults, has it not?

A It is possible .

Q Now with respect to the position of the lowest part of the Alberta syncline, are all of the geologists here in Alberta

in agreement with you on that subject.

A Oh I would not say that, no.

Q Have you read my paper on that?

A I think I have, thetpaper on the Alberta---

Q The paper on the Alberta syncline?

A Yes, I do not agree with that though.

Q That is two of us who do not agree, that is what I am trying to bring out, I think very much of Mr. Irwin's opinion, but we are not agreed on that and we may not be agreed on this New Valley area either.

A Well pardon me if I may say, when I said I did not agree with it, there were many parts I did not agree with but there are many points here and there that I did.

MR. FRAWLEY: Just a mutual admiration society?

Q DR. LINK: Now I think My Lord, you will understand now that we geologists are again guessing and grabbing things out of the air and Mr. Irwin, you are not in a position to give an estimate on the possible reserves in this untested structure?

A Oh certainly not.

Q Therefore you think it should be regarded as a possibility for a pipeline at the present time?

A I am not saying that. I merely say it has a potential oil reserve.

Q Which might be discovered after the pipeline has rotted away, is that not so?

A Oh it might or it might never be.

Q TO DR. BOATRIGHT: Where is that Jumping Pound well, it was mentioned here in connection with the Turner Valley field?

A Well it is, I believe it falls off, no, it doesn't fall

off this map but it is, here is the Jumping Pound Post Office and the wells were about two miles or something like that North of Jumping Pound Post Office and that would be approximately, oh, 12 or 15 miles North West of the North end of this area which we have been discussing and they would also, the Jumping Pound structure is within the highly folded and faulted belt, and is a structure similar in type to Turner Valley, and different in type to the one which we are discussing. Now it lies in front of the thrust faulted area.

DR. BOATRIGHT: Thank you.

THE CHAIRMAN: Any more questions.

MR. FRAWLEY: Is that all the evidnece you have.

MR. REDMAN: That is all.

KENNETH MORRISON, having been recalled, examined by Mr. Frawley said:

Q Now Mr. Morrison, do you recall just at what point we were, yes, we were discussing the indirect cost.

A Page 21.

Q Page 21, and I am going to ask you something now, Mr. Morrison, will you define the difference, distinguish between those two words, the two phrases "direct cost" and "indirect cost" for the information of the Commission?

A The direct cost which we have already dealt with today means the cost which in the books of the company are charged directly against the pipeline department, that is to say, we will take as an example the wages of the men who are directly employed on the pipeline and nothing else. Their wages are charged directly to the pipeline

department and are regarded as direct expenses.

Q The men who work the pumps and work the valves on the pump line that runs to Calgary for example?

A Yes, or the line-walkers.

Q Their salaries, their wages, are direct costs?

A Direct costs. Now the same is true of certain material, it is used for repairs on the pipeline department and is charged directly to the pipeline department. There is no need for any further distribution in the books of the company.

Q That is it, this question of the worry of distributing the cost does not arise at all in connection with what you would call "direct costs"?

A That is it and is pointed out by Mr. Nolan we are practically in agreement insofar as the charge under review of the 30th of December, 1938, as to the total of those direct costs.

Q With the exception of the storage rent of course?

A Yes, oh yes, with the exception of that, apart from that we are in agreement practically with the amount and they are called "direct costs" because they can be specifically allocated to the department.

Q Any accountant would find the same "direct costs"?

A Yes.

Q And that is why you make it, your investigation and Mr. Taylor's investivation tally so close together.

A Yes, they would have been in actual agreement except as I mentioned in the report that included in those direct costs were certain allocations, in other words the company had in the past and during the nine months of 1938 distributed certain items into the direct category which were directly

indirect expenses.

Q Will you illustrate that, you have just said that "direct costs" need no distribution?

A Ordinarily that is true but nevertheless it is quite usual to find in the direct costs certain allocations of indirect costs, in other words they are made direct costs by the distribution.

Q For example?

A Now that may appear confusing but you will find in the direct costs a composite of what is direct costs without question and certain other indirect costs which have been distributed.

Q And put into the book as direct costs?

A Yes.

Q Can you give us an example that may help?

A I am trying to think of what something might be, it is quite difficult on the spur of the moment to pick out an item that would be included in the distribution as "direct costs". I would have to refer back to the working papers to get that.

Q I only raised it in case it might be helpful, because it does at first blush---

MR. NOLAN: It is suggested that perhaps "fuel-gas line" might be.

A That is one, yes. Of course the difficulty in specifying or specifically saying that "fuel-gas line" is an item in question is that these allocations were not made for all of the indirect costs. Unfortunately I might pick out "fuel-gas line" and then that might be one of the exceptions, that is why I do not wish to commit myself as to exactly what was done.

Q All right, it may not be essential?

A But in these statements, the indirect, or the distribution of these indirect expenses which were previously included in the direct expenses have been eliminated so that they are not now there.

Q In this?

A Yes.

Q THE CHAIRMAN: The Company may have done that but the witness has already classified them as direct and indirect, they are enumerated in each category and come properly there in his view.

MR. FRAWLEY: That is right.

WITNESS: Yes, and insofar as I see, insofar as the direct expenses are concerned both the company's representatives and ourselves have eliminated the distribution of indirect expenses which have been made and we have substituted under the heading now of "indirect expenses" our ideas of what they should be. The company on the other hand have taken the same amount but with probably a different idea as to how they should be distributed.

Q It is not the same as you eliminating the $14,000?

A No, that is disallowed.

Q That is disallowed?

A Yes. The other now, it is a matter of difference in the amount of the percentage of distribution which we took as compared with the percentage of distribution which the company takes, but insofar as the items are concerned in the main we are in agreement insofar as direct costs are concerned; insofar as the direct costs, I am not sure as to how we agree on the total but they will look into that matter and compare their totals with our totals.

Q Let me follow up what the Chairman said, while the company may have put it under the heading of "direct costs",some of these distributed "indirect costs" under the heading of "direct costs",you have not done it?

A No.

Q But that does not result in throwing out any costs again?

A No, these were, they had been taken out as direct cost but they have been included as indirect costs on a different basis of distribution.

Q THE CHAIRMAN: Which will affect the result of course?

A Which will affect the result.

Q MR. FRAWLEY: There may be more or less dollars and cents put into the operating costs,by a difference of method?

A Certainly, that is true, we might both have taken out a thousand dollars we will say out of the "direct costs" which were there as "indirect costs", and we show that thousand dollars in as "indirect costs" and we suggest that say 20% of these should go and the company says "oh no, 30% of them" should go, so that we still have the thousand dollars but we say on that "$200.00 should be regarded as the expenses" and the company says "$300.00".

That is exactly what I wanted you to say by way of illustration, that is where the difference in dollars and cents arises?

A Yes, that is the percentage which we use will certainly affect the number of dollars which are being regarded as an expense.

Q Of the pipeline dpeartment?

A The pipeline department.

Q That is right. Now Mr. Nolan suggests, and I agree with him unless you have some good reason to the contrary, that this might be a good time, and perhaps it is the very time you intended to do it, to explain how you arrive at this percentage?

A Surely.

Q This $18,290.00 but I think you stopped in your definition, had you finished defining "direct costs" and "indirect costs"?

A No. I merely defined "direct costs".

Q I thought so.

A No "indirect costs" would be as enumerated on page 21, the first item there of " Boiler Plant Expenses", there is a total expense shown at $19,344.75 under the heading of "Boiler Plant Expenses". Now that "Boiler Plant Expenses" is the whole of the "Boiler Plant Expenses" of the company supplying various departments. Now then some part of those expenses are due to be charged to the pipeline division.

Q Yes.

A That is why it is called an "indirect expense", it is not directly chargeable to it, that is the whole of the amount which is spent by the company under "Boiler Plant Expenses" is not all chargeable to the pipeline department, some portion of it is.

Q And because only a portion of it?

A We admit it.

Q But because a portion of the cost is chargeable, you say that is an "indirect cost"?

A We have used that term on the top of the sheet you will find it is "Proportion of Utility Expenses and Service Units", now that might be more correct but we have put it all under the heading of, merely for distinguishing direct

as against indirect, it represents a proportion of utility expenses and service units.

Q And the big question is what proportion?

A What proportion.

MR. NOLAN: I wonder if the Commissioners quite follow that. I hope I am not interrupting unnecessarily, sir, it is a little difficult at first some time, the point is Mr. Morrison, the boiler plant services certain departments of this company?

A All departments as a matter of fact.

Q And there are more departments than the pipeline?

A That is what I mean.

Q There are four departments?

A Yes, at least four.

Q It doesn't serve four, how many does it serve, let us say three?

A Well it serves more than the pipeline department, that is what I am interested in.

Q And they have, my Lord, to find out what proportion of that expense should be borne by the pipeline department, that is it should not bear all of the expenses because it serves other departments.

MR. FRAWLEY: That is right, I think that is clear.

MR. NOLAN: I am putting it on the servicing of these units. I think that makes it a little more clear, Mr. Morrison, that they serve more than the pipeline and that is what causes the difficulty, is it not?

A Well I do not know that that makes mcuh or any difference. They serve, I do not know if there is any, the boiler plant expenses have to be borne by all of the departments of the company.

Q Which it serves?

A Which it serves.

MR. NOLAN: Yes, that is it.

MR. FRAWLEY: Yes.

(Page 2185 follows)

Q MR. FRAWLEY: Now the same is true with the next item, Electric Plant expense?

A Exactly the same thing is true, that there is a certain expense involved by the Company in running their electric plant.

Q You are going to run down that line and you are going to explain that and then you are going to get on to that question of percentage?

A I am not going to go over every item because the same principle is true in all cases, in that the distribution of this expense is necessary to be made in prder that the Pipe Line Department may bear a fair proportion of this expense. Now these come under two main headings, Utility Expenses and Service Units, which is on top of the page, and the Administration and General Expenses, following.

Q Yes?

A The same principle is true insofar as distribution is concerned, that what we are endeavouring to do is to place to the Pipe Line Department a fair proportion of the expenses of these two main headings. We have used the labour ratio basis to do so.

Q At this point I think it may be that the Chairman and Mr. Commissioner Lipsett have that quite clearly, but I think it might serve a purpose to put into the record as much as you can to explain this labour ratio method, and how you have come to use it.

Q THE CHAIRMAN: First of all how did he happen to think of it? How did he arrive at it as a method? Has it ever been used anywhere? Or if not, why did Mr. Morrison happen upon it?

Q MR. COMMISSIONER LIPSETT: Just before you start that new subject, to make the figures clear, Boiler Plant Expense $19,000.00 and then you give also a proportion of the Taxes on the plant in the next column?

A Yes, that is the taxes applicable to the Boiler Plant has been applied by the Company in respect of the Boiler Plant.

Q Again, segregated from the total taxation?

A Yes, that is true.

Q When you come to the bottom of that column you get $103,946.78?

A That is the total of the expenses and then we add to that......

Q Is that the total amount of the expenses after deducting these credits that are set out in red?

A Yes, that is a net figure, and then we add to that the total of the taxes, $9,021.49, which gives a total of $112,968.27, being the total of the Utility Expenses and Service Units and Taxes.

Q As paid by what department?

A As paid by all departments.

Q And now you are coming to the allocation as between the Pipe Line and the other departments?

A Yes.

Q THE CHAIRMAN: You applied this labour ratio to the taxes too, did you?

A Yes. To taxes and also later on you will find it applied to administration and general expenses. Now with reference to the use of the labour ratio......

MR. FRAWLEY: I think it is, just before you begin, I think it would serve a purpose if you

Kenneth J. Morrison.

told us to some extent of your negotiations with the Royalite Company's accountants and auditors, the Price-Waterhouse people, and the discussions which you had insofar as they are relevant, and in synopsising them for the benefit of the Commission so that we may be able to consider the methods which were suggested to you and which you rejected, and how you came to adopt the One you did adopt. If we knew the methods our friends have used we might comment on that as we go along.

A Well I do not know about that. I have a statement I want to get before I start. I may say, Mr. Chairman....

MR. NOLAN: I wonder if I may interrupt to suggest to my friend that the negotiations leading up to finding some basis in respect of computing the indirect costs is not of very much importance now. Mr. Morrison has got a basis. We have a basis. As to what the negotiations were, in an eadeavour, before this Commission sat, to reach some common basis. do not seem to me to be of importance at all.

MR. FRAWLEY: I would not have thought of it at all, except on the Chairman's observation, intimating your desire to know as much as you can about this, in asking Mr Morrison how it came about he adopted it. That is why I thought it might help.

THE CHAIRMAN: We will hear the evidence.

MR. NOLAN: I thought you wanted to know why this basis was taken?

THE CHAIRMAN: That is right.

MR. NOLAN: And why we did not take this and took some other basis does not assist the Commission. Why we did not take a common basis does not assist the

Commission. Mr. Morrison took this basis.

THE CHAIRMAN: I am interested in knowing what the discussion was between these experts before they arrived at their dissimilar points of view. It might not have great probative force, Mr. Nolan, but we have heard a great deal of evidence already which is in the same category.

MR. NOLAN: I am not thinking of the probative force. I am thinking of the undesirability of going over any more ground than is necessary.

THE CHAIRMAN: I do not think it will take very long. We will hear it.

A There are many methods adopted in any cost accounting for the distribution of what we have been referring to here as Indirect Costs, among which is what we call the labour ratio. Sometimes that is done by merely taking the number of men employed, without regard to the value of the wages which those men earn. In other words, you might have 100 men employed by a Company, ten of which are employed by one department and 90 by another. For the purposes of distribution of Indirect Costs it would be said that 10% of that indirect cost should be attributed to that department, I did not agree in this case it would have been fair to have taken such a method, because of the disparity in the wages paid. The men who are drilling wells receive a higher wage per day than the men who are on the Pipe Line Department as a general rule. And so it was felt that that basis would not be acceptable and that we.......

THE CHAIRMAN: I did not catch the first part of your statement. Did you say this 10% is sometimes used?

A That is sometimes used.

Q And that is generally known in accountancy?

A Yes. As I say there are many different methods. There is, in addition to the number of men, they reduce it sometimes to the number of hours that the men work. Another basis is the amount of wages earned, and the proportionate amount of the wages earned, and that is a basis of distribution. Then there are many combinations of the different methods which we can obtain for the Commission and lay down before you, the different methods that are adopted. There is no uniformity in practice of what method a company might desire to take. Sometimes the cost accountant favours one method, as appealing to his reason for a distribution; another accountant in the same type of business adopts an entirely different method. The results that they arrive at may be very close but nevertheless they have used different methods in arriving at their basis of distribution. In this particular problem when we commenced first, it was suggested that we should use a revenue basis of distributing the indirect costs, and the revenue basis is one that has been used by the Company in distributing the indirect costs on what has been called the Jersey Statements- Exhibits "83" to "87". That revenue basis is made up in this way, that they will take the whole of the revenue of the Company and ascertain the amount of that revenue that belongs to the Pipe Line Department; the amount that belongs to the crude oil

department and the amount that belongs to the other two departments which are named, the Natural Gasoline Department and the Gas Department. They will then find the ratio that each individual revenue of each department bears to the total, and they will distribute the indirect expenses on that basis.

THE CHAIRMAN: Has the Royalite a Natural Gasoline Department?

A They have what they call a Natural Gasoline Department, yes Sir. Exhibits "83" to "87".

MR. FRAWLEY: Your Lordship is looking at me because I promised to have this thing prepared. That is absorption gasoline. That is the product made in the absorption plant.

A In Exhibit "83" as an example. I am only taking the first one that happens to be at my hand. It is for the period for the year 1933. In that year the total net revenue of the Company was $1,476,982.03. Of that figure $178,062.21 was the revenue of the Pipe Line Department. That represents 12.06% of the total revenue, and so in the next statement, Exhibit "83d" the indirect operating expenses are distributed insofar as the Pipe Line department is concerned on the basis of 12.06% That is a method that is very common and is quite often used in various businesses. I objected to that method in this particular case because I felt that the revenue of this Pipe Pine Department might increase very much greater proportionately than the expenses, because of the nature of it. So I understand that the Company are not now using for the purposes of this statement that basis. I merely explain that is

another method of distributing indirect costs, and that method is used by the Company in preparing these Jersey Statements.

Q THE CHAIRMAN: That is to say, you think it would work against the Pipe Line Company?

A Yes, I do, Sir.

Q The great increase in revenue......

A That is to say the expenses do not, in my opinion, increase proportionately to what the revenue might increase.

Q And as anticipated will increase as against the revenue of the other departments?

A That is true, yes. Or in other words also, quite apart from its increase as compared with other Departments, that the cost of increasing the business through the Pipe Line would not increase proportionate with its revenue.

Q MR. COMMISSIONER LIPSETT: You might put it another way, and say that if the rate would increase from 15¢ to 20¢, there would be a large increase in revenue but no increase whatever in expense.

A That would also be true, Sir, and, of course, a decrease would have the same effect adversely. That method, of course, was thenssuperseded but it was discussed. I am merely giving you the discussions that we had. That method was discussed, and it was agreed that it should not be used. We did not endeavour to find out if we could arrive at some other basis of distribution. It was more or less agreed, in fact it was agreed, that irrespective of the result, the labour ratio basis

which we are now using would be accepted and to that end our representatives and the representatives of the Company obtained and got material showing the total payroll, the outside payrolls and the drilling payrolls and the Pipe Line payrolls, in order to ascertain the total that would be properly chargeable to what we now call a straight labour ratio basis to the Pipe Line Department. A schedule was prepared showing what those percentages would be for the periods from 1934 to 1938, that is for the nine months in 1938, and insofar as the accuracy of that calculation was concerned, it is subscribed to by the representatives of Price-Waterhouse & Company. So that insofar as its accuracy as to percentage, we have an agreement with them on that basis.

Q THE CHAIRMAN: That is if your method is taken your 18% is in order?

A Yes sir, that is correct.

Q For that year?

A Yes, for that year. Now after these calculations were made the Companies felt that they could not accept this basis of distribution because we had insisted on including in our outside payroll, all men employed, whether they were on capital expense, such as drilling wells, building absorption plants, and building pipe lines or anything else which would be capital expense, as against the contention that only men employed as operators - that is on ordinary maintenance work - should be employed. And that is where we really split insofar as distribution was concerned. We felt in order that this distribution might be fair and equitable that all men whether they be employed in capital work or in operating work should be included. The reason

for so doing was that we felt insofar as these indirect expenses - and I was thinking particularly of the Administration Expenses - that the proportion of Administration time taken up would be greater when there were capital men employed, no matter what Department might be affected, than when there was not any capital work in view.

Q THE CHAIRMAN: If you took a year in which they were putting up some large structures would not you get an unfair result for the purpose of future estimation?

A You would get a result which would charge more to the Department in which that large capital structure was being made. But my thought in that is, there would be a lot of time taken up by Administration because of that work than there would otherwise.

Q MR. FRAWLEY: Would you be concrete about that? Give us an example of what their contention would lead to as against your contention. Taking for instance Mr. John McLeod's salary which is a typical indirect expense. What did it mean......

A Of course I have no knowledge of what basis has been used. But insofar as the elimination of capital payrolls......

Q That is what I mean?

A As against only the operating payrolls, it would mean that the drilling of wells department, which is all capital, would bear no portion of that overhead expense.

Q Would bear no portion of Mr. McLeod's salary, if their view or their qualification of the labour ratio basis were used, as against your complete use of it, regardless

of whether it was a capital department or an income department?

A That is correct. If they were only using operating men, there are no operating men in the drilling of wells department. They are all capital expenditures. Therefore, there would be no amount included for them as a charge against that Department.

Q And that is the issue that was before you when you went your way and they went their way?

A I do not know that it was reduced to that particular difference. I felt in fairness to the Company as a whole that all the men employed, both capital and operating, because of the nature of their business, where they had one department which was all capital and probably another department which was all operating, such as the Pipe Line Department, that does not build the new lines?

Q Yes?

A That is exactly the difference.

Q And that is why you adopted......

Q THE CHAIRMAN: Has that been a subject of consideration when these different methods were being worked out by accountants, and which you say are a recognized method? Some accountants adopt some ahd some others. Did you have such a situation as this under review before?

A Not that would fit in exactly to this similar picture, because when a distribution is made it is usually made in a manufacturing plant where different commodities are used, and, therefore, we have not one department which is doing only capital work and others which are

doing operating work.

Q So you are breaking new ground?

A Yes. We are breaking new ground. There is much to be said on both sides. So far as the amount that is involved, that is the percentage that was agreed upon, that is the principle of us taking the men employed as against some other method maybe subject to difference.

Q MR. FRAWLEY: So that I will understand it as well as I can, if you eliminate the drilling of wells department, because that is always capital expenditure and no operating expenditures?

A That would be automatically eliminated.

Q It would be eliminated, and of course one of these indirect costs by the way is the cost of operating the main office of the Royalite Oil Company in Calgary?

A Yes, a proportion of it.

Q Let us take the electric light bills in the main office of the Royalite Office in Calgary?

A Yes.

Q Does that mean although the drilling of wells department might use lots of electricity in that main office over the drafting tables at night, in connection with their drilling of wells, that no portion of that electric light bill would be charged against the drilling of wells department but it would all fall on to other departments and probably on to the pipe line department?

A It would not fall on the drilling of wells department if they were operating their office ordinarily.

Q Does it follow that the suggestion that I am putting to you that no part of that electric light bill would

be borne by drilling of wells department, was it because that did not appeal to you that you rejected it?

A Exactly. I wanted the distribution made over all departments. I thought this was a fair way of getting that done.

THE CHAIRMAN: That is very clear. It breaks new ground here because accountants have not heretofore faced a problem or a situation such as this wherein a Company has a department, one dealing exclusively with capital matters and others dealing with ordinary routine and carrying charges of an operating kind.

MR. FRAWLEY: That is right and the accountant has to break new ground and put that where his experience tells him it ought to be.

A That is correct.

Q MR. COMMISSIONER LIPSETT: Have they got a separate department for drilling wells on the one hand and one for operating wells when they are completed. Are they separate departments?

A As to their records I do not know that. I do not know that I can speak to that because I did not go into these departments. But they have what will be seen from the Jersey Statements, separate departments. As to whether their books disclose that as is shown by the statement, I am not at the moment prepared to say.

Q One of those would be capital and the running of the well after it came in would be an operating expense?

A That is correct. The records will probably disclose it in in that manner.

Q MR. FRAWLEY: Very well, then. After the

drilling well becomes a producing well, then they shift over from the drilling well department, whatever it is called.....

A Yes.

Q To the producing well department, and it takes its load of my electric light bill of the Royalite Head Office in Calgary?

A Well it will take its proportion of the expense.

Q But not before that?

A Not before that.

THE CHAIRMAN: Hadn't you better find out at some time how many departments this Royalite has, and name them precisely and find out what they are?

MR. FRAWLEY: We might have done that by this time. It is becoming very important now.

THE CHAIRMAN: It can be put in in a very few words.

MR. FRAWLEY: Perhaps it would help if, for a few minutes in the morning, Mr. Nolan had someone here.

MR. NOLAN: I have with me Mr. Maw, who is a Chartered Accountant and who is conversant with the matters of this Company by reason of his annual duties as auditor of the Company. He is not a gentlemen whom I propose should give evidence on these controversial matters, but Mr. Maw has had firsthand knowledge of the affairs of this Company, and if it would assist I should be glad if he would go into the witness box and give your Lordship an idea of how this is divided up, if he does know. Or at any other time.

Kenneth J. Morrison.

The first thing in the morning if you say so.

THE CHAIRMAN: I think, Mr. Frawley, that we will not start a witness for the sake of four minutes, but I think probably it would be better to have that in the record before proceeding.

MR. FRAWLEY: Yes, I think that is so, Sir.

(At this stage the Hearing adjourned until 10.30 A.M., January 17th, 1939).

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[illegible]

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J. J. FRAWLEY

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The Province of Alberta

IN THE MATTER OF THE PUBLIC
INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the
12th day of October, A.D. 1938, to inquire
into matters connected with Petroleum
and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta JANUARY 17th, 1939

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17th January, 1939.
10:30 A.M.Session.

MR. FRAWLEY: I am calling Mr. Maw.

ARTHUR MAW, having been first duly sworn, examined by Mr. Frawley said:

Q Mr. Maw, you are a chartered accountant?

A Yes.

Q A member of the Institute of Chartered Accountants for the Province of Alberta?

A Yes.

Q You are practising with the Price-Waterhouse in Calgary?

A I am employed by the Price-Waterhouse.

Q Yes, and the Price-Waterhouse are auditors for the Royalite Oil Company, Limited?

A Yes.

Q And so far as you know for all of the companies in the Imperial organization in Calgary?

A Yes.

Q Now we have, it appeared desirable yesterday we should have outlined for us the various departments of the Royalite Oil Company and will you do that for us now, Mr. Maw?

A I think I ought to explain that I can only give you the departments from the accounting standpoint.

Q Quite so.

A That is from the point of view of the superintendent of Administration the split of the departments may not be on exactly the same lines, but so far as the accounting is concerned this is their departmental arrangement---

Q Do you have any reason to think there is any difference between the accounts, the departments as they are represented in the books of the company and the actual departments as they operate for the company?

A Well no, except that quite possibly there may be lines drawn in different places as to the management and superintendent of departments, for instance there are quite a few departments gathered together in the No. 1 Plant, the No. 1 Plant yard, they may use the same superintendent, the same foreman, and from the point of view of management it may be all one operation but from the point of view of accounting they are separate departments.

Q Which means that some, that the division, that the departmentalising which is set out in the books may overlap from time to time in the actual operation of the company, that is what that means I imagine?

A Well that is not quite what I mean. I would not say they would overlap. What I mean, there is a clear-cut accounting distribution by departments.

Q Yes.

A But I am not in a position to say that the superintendent's operations of the company is confined to normally clear-cut lines; beginning at the beginning I tried to put these more or less in the order in which the operation is carried on, although as the operations are carried on side by side I am not able to do that throughout but the beginning of the operation of course is drilling, that is carried out by the drilling department and is the only department which is solely for capital expenditures.

Q So we have the drilling department first?

A Yes.

Q That is what you are saying?

A Yes.

Q Then next.

A Then the revenue producing department.

Q Now you are making another classification, you say the drilling department which you are speaking of now is the first department of the company and that is in a classification of its own and what is that classification?

A It is "Capital Expenditures".

Q Under the heading of "Capital Expenditures" we have the drilling department and that is the only department in that classification?

A In the accounts, yes. By that I do not mean that the drilling is the only capital expenditure which the company incurs.

Q No.

A The other capital expenditures are treated differently, they are not departmentalised like this.

Q So far as the accounts are concerned the drilling is all capital expenditure?

A Yes.

Q And you have a capital expenditure classification in which you put and only put the drilling expenditures?

A Well I put the classification of "Capital Expenditures" on that.

Q Well we are accepting your further classification.

A To be more specific the "Y" here is a drilling department under "Y" all drilling expenditures are included and all items charged to any account beginning with "Y" eventually finds its way to capital expenditure in the form of, either tangible well costs or intangible well costs.

Q Now before this gets too confused, I want to just ask you this, you put the drilling of wells in the capital expenditure department because there is no income and there being no income and there could not be to you anyway, as an ac-

countant, in all operating costs, in that correct?

A That is right.

Q That is correct?

A Yes.

Q You incur a lot of costs in drilling a well but for some purpose which for the moment I am not very able to follow you, but you as an accountant think it is quite right, you do not call those costs "operating costs"?

A That is right.

Q And why are they not "operating costs", I am only saying it now to make it clear, so that your answer will make it quite clear so far as we are concerned?

A Because they are monies which you have invested with the idea of earning income on them.

Q With the idea of---

A The intention of earning income.

Q But until they earn income, until that operation earns an income there are no "operating costs"?

A No, it is an investment of funds.

Q And is just so far as you are concerned, it is using exact language for an exact purpose and if the man on the street says you are expending money and it is costing you money to drill a well, you do not call that "operating costs" so far as the Royalite Company is concerned anyway?

A No, I am investing in a well.

Q All right. Now you go to the second general classification of "revenue producing departments", is that right?

A That is right.

Q Now in these revenue departments, what are they and where are they?

A I put first "wells operating".

Q Yes?

A "Gas gathering".

Q Gas gathering, yes.

A "Oil gathering"; "Calgary trunkline operating", those last two constitute the two direct pipeline revenue producing departments.

Q So we could call "C" and "D" the pipeline department?

A Yes.

Q Mr. Morrison has been marking them "A", "B", "C", and "D".

A Oil gathering is the Calgary trunkline operation.

Q Have you some more?

A "Gasoline plant operating".

Q Now---

A Two of them, treated by the company as separate.

Q Are the gas gathering lines separate from the gasoline plant operating?

A Yes, and "scrubbing plant operating".

Q Yes.

A Those are the only departments which I have classified here under the heading of "revenue producing departments".

Q Then, Mr. Maw, I beg to refer you to Exhibit "87" (C), which is the Jersey statement, part of the Jersey statement for the year ending 31st December, 1937, now Mr. Morrison calls my attention to the fact that you would appear to have some other classification, and by the way, you have not got that statement but you are perhaps familiar enough with it if I read it to you?

A I would prefer to have one in front of me.

Q It is much better to have one in front of you, there is Exhibit "87", Mr. Maw, and on sheet (C) 87 (C) which Mr. Humphries produced you find there that there appears to be

the following departments: "Crude Oil", "Crude Naphthas", "Absorption Gasoline".

MAJOR LIPSETT: Which Exhibit is that?

MR. FRAWLEY: It is 87 (C).

MAJOR LIPSETT: What year is it?

MR. FRAWLEY: 1937, the Jersey statement for 1937, it is the second last large sheet.

Q MR. FRAWLEY: Mr. Maw, you realize that all I want to do is to harmonize what appears to be the departmentalising of 87 (C) with the departmentalising which you have just done for us.

A Yes, well in that case I can add to the revenue producing department, local sales station. I had ommitted that as a minor importance but perhaps I should not do that.

Q Are you lloking at 87 (c)?

A Yes.

Q THE CHAIRMAN: Local sales station?

A Yes.

Q MR. FRAWLEY: But that in turn, Mr. Maw, appears to have been distributed among "Crude Oil", "Crude Naphthas", "Absorption Gasoline", "Gas", "Pipeline"?

A Well for the purposes of this statement it would be.

Q Well yes, what we thought, rightly or wrongly, was that it appeared from this statement that 87 (C) that your departments were as outlined "Crude Oil", "Crude Naphthas", "Absorption Gasoline", "Gas", and "Pipeline", those five, is that a proper inference from this statement?

A No.

Q Then why?

A Because the purpose of this statement is only to arrive at the cost as adequately as possible for the company's balance sheet of crude oil inventory, crude naphtha inventory,

and absorption gasoline inventory, in its annual balance sheet.

Q Well there is more than inventory distributing, I understand that all of the expenses are distributed amongst those five departments?

A They are because the expenses enter into the cost of the oil.

Q Well it is a fact that 87 (C) and 87 (D), that all of the expenses of the company are distributed over those five departments?

A If you will refer to (C), that is the last page?

Q Yes.

A You will see that it ends up under columns "Crude Oil", "Crude Naphtha", and "Absorption Gasoline" with three figures, denoting the cost per barrel, at the bottom of the page.

Q MAJOR LIPSETT: Which page is that?

MR. FRAWLEY: It is the last sheet for 1937.

Q MR. FRAWLEY: Well that is true, Mr. Maw?

A It is to arrive at those three figures that this statement is prepared.

Q That may be so but the expenditures have also been distributed amongst the remaining two departments, if I might call them such, "Gas" and "Pipeline"?

A Quite, as being not applicable to crude oil, crude naphtha and absorption gasoline.

Q Of course what the purpose, what these two sheets in any event, 87 (c), and (B) were intended to do, were to show to the parent Company the cost of producing those three things, crude oil, crude naphtha and absorption gasoline, that is I presume what you are saying?

A No, I was not saying that. I do not think that they were

prepared for, as an exact purpose as that. They were prepared to provide a balance sheet valuation, a balance sheet cost, one which would be suitable to value the inventories of those three figures.

Q Oh I am not quarreling now with that, it appears in some fashion either as an estimate or as an exact cost, the purpose of preparing these two sheets was to arrive at those three figures at the very bottom of page 87 (B).

A That is right.

Q But in the process of doing it you seem to have departmentalised your expenses and all I am doing is, I am just looking for a guidance as to whether or not you have given us this morning as correctly listed, what appears on the Jersey statement, or whether what appears on the Jersey statement is the proper way to departmentalise this, that is all I am doing?

A What I am giving you now is the way the company keeps its books.

Q Well then where are the expenses listed under some of these that do not appear, take for instance "wells operating", where do we find, in the five departments, in the Jersey statements, in which one of them do we find that "wells operating"?

A On page (C), the first item in the operating expenses, marked "special".

Q Yes.

MAJOR LIPSETT: That is the last page?

MR. FRAWLEY: The last page, yes.

Q MR. FRAWLEY: Well now, you say, Mr. Maw, I take it that $269,584.41, you say that is for that item which is to be found there, but then you say that has been

distributed, now where has it been distributed, yes, "crude oil $141,348,50", I am reading at the very bottom of the page, Mr. Chairman, $26,467.80 under "crude naphthas" and "$101,768.11 under 'Gas'"?

A Yes.

Q So we come back to where we were a moment ago?

A Well I would not like to say offhand the reason for the split between those three, but you will notice that nothing is charged to absorption gasoline and nothing to pipeline.

Q That is true so far as that item, the wells operating situation, is concerend?

A That is the way you would expect it to be.

Q What I am leading to is instead of "wells operating" we have it under "crude oil", "crude naphthas", and "gas", using your departmentalisation as exhibited in 87 (B), that is all I am saying, I am just trying to save confusion, there is nothing controversial in this at all, it is just to get the idea of the departments, at the request of the Chairman?

A Well I think it would be simpler if you would ignore those headings as departments because they are not departments, on this Exhibit "87" and "86", they are not, they do not purport to be departments, although the statement is headed "Income by Departments", but they are not departments as set out in the company's bookkeeping system.

(Page 2208 here follows)

MR. FRAWLEY: To me, Mr. Chairman it does not seem that we can usefully pursue it any further. Mr. Maw has outlined in great detail what he now says are the departments of the Company, according to his understanding.

THE CHAIRMAN: Now Local Sales Stations.

MR. FRAWLEY: Do you still want to go on with that?

A I say after the Revenue Producing Departments there are other departments that I still have to come to.

Q Then we had better let you finish what you were doing. Local Sales Stations?

A That really embraces most of the revenue producing departments. The rest are Utilities and Service Units and they are not to produce revenue but to enable the Company to function.

Q THE CHAIRMAN: You say that the revenue producing departments end with?

A Local Sales Stations.

Q Yes?

A And what is your next division?

Q MR. FRAWLEY: You have another division have you?

A As regards utilities and Service Units. I think it would be better not to try and separate them, and say so many are utilities and so many are Service Units.

THE CHAIRMAN: Why not?

A Speaking of one of these departments, the Water System, ordinarily that would be considered as a utility. The Water System. Now in the Company's books in a general way they distribute the proceeds

of the Utilities by an arbitrary percentage of the cost of the whole to the various operating departments and your service units by a charge on a unit basis. But that is only in a general way. The definition overlaps. For that reason I think it would be simpler to treat utilities and service units as one classification of departments.

The CHAIRMAN: The costs are arrived at on a different basis. How can you lump them?

A No sir, the costs of them are the direct costs but it is the allocation of their costs that we are considering. The allocation of their costs to the Revenue Producing Departments. What I was going to say was to take one classification of utilities and service units and then if it is necessary for you to know whether one particular item is charged to revenue producing departments on the basis of unit charges or by arbitrary percentages, I can, if necessary develop that. Perhaps it would be more satisfactory if I did that from start to finish.

Q MR. FRAWLEY: Are you familiar with page 24 of Mr. Morrison's Exhibit "88" in which he has shown under the head "Sundry Assets". Is that what you are now speaking of, Mr. Maw? Statement No.24?

A Those are assets. We were dealing with operating departments.

Q Yes, well?

A In the main those are assets.......

Q Just a minute.

THE CHAIRMAN: Yes.

Q MR. FRAWLEY: I suggest that they are

assets, true, but they are assets to be found in those two departments we are now dealing with.

A In the main, yes.

Q There is an item "Residential Quarters". Do you call that a service unit?

A The operation of the Residential Quarters is a department.

Q Are you going to give us that as another department or do you say it is under the Utilities and Service Units?

A I will include it under Utilities and Service Units.

Q All right. Let us run through these things and see how many are under Utilities and Service Units. It might help us. We will see if they all come under Utilities and Service Units. Perhaps we can agree that all of them do, and if not you can point them out.

THE CHAIRMAN: He mentioned as another division of his own.

A I was proposing to give you the classification of the Departments are used by the Company.

MR. FRAWLEY: You tell us when you are finished before we bother you any more. I have got drilling department as one division, 2-Revenue Producing Department, 3 - Utilities and Service Units. Have you any other main divisions that you want to mention? Whether main or not, any division?

I think I can include all other departments under that heading, the heading of Utilities and Service Units, although it might not be strictly accurate. I can explain the difference as I deal with each one.

Q Yes? Now in that you say you have, under that general division of Utilities and Service Units, there are, as a matter of fact, several departments just as there were in the Revenue Producing Division?

A Yes.

Q All right, what are they?

A There are quite a lot of them, Sir. Do you wish to write them all down?

A I think we had better exhaust it.

THE CHAIRMAN: When you say quite a lot, how many do you mean roughly?

A Roughly about 30. Some of them are of minor importance.

Q They are all departments?

A Yes sir.

Q MR. FRAWLEY: For your purposes?

A For the purposes of the accounts, yes.

Q THE CHAIRMAN: All right, let us have them?

A The first is fuel gas lines.

Q Yes. Would it be convenient to say whether, as you come to each one, whether it is under Utilities or Service Units? I know you have them grouped, but when you come to the costs you approach them differently?

A Yes sir. It is for that reason I have tried to get away from this classification of Utilities and Service Units, because I think it is misleading. I think it would be better if we segregated them under three other headings:-

(1) Those that are charged by the percentage;

(2) Those that are charged on the unit basis;

(3) and those where the whole expense is absorbed

in the profit and loss account direct.

Perhaps to that I should add

(4) Any other method.

MR. FRAWLEY: If that suggestion were adopted it would be a sub-classification of item No. 3, Utilities and Service Units?

A Yes.

THE CHAIRMAN: There are three main sub-divisions.

Q MR. FRAWLEY: What are those three main sub-divisions under 3? You mean you have got to list them so will you still list them under 1, 2 and 3. Can you do that?

A Yes.

Q Very well.

THE CHAIRMAN: We have 4 too. Any other method.

MR. FRAWLEY: 4. Those charged by any other method?

A Yes. Fuel Gas Lines I think should go under 4. I include it under 4 rather than 3 because, although the cost is absorbed in the Profit and Loss Account, they are the means of producing revenue which shows in other sections of the account, also, of course, ending in the Profit and Loss Account.

Q So we are going to put Fuel Gas Lines to 4, chargeable by any other method. Yes?

A Used material warehouses, are on a Unit basis.

Q THE CHAIRMAN: Used Material, Warehouses?

A Perhaps I should elaborate that, by a unit basis. I mean that the cost of the warehouse is not added

up and a percentage of it distributed to the departments, but the warehouse obtains its revenue to offset its costs by adding a percentage to its withdrawals. which puts it in the classification of being on a unit basis. Trucks and tractors are on a unit basis. Automobiles on a unit basis. Company garage on a unit basis. The Water System.

Q The same?

A On a unit basis. Forge and machine shop the same. Warehouse, the same.

Q Storehouse and warehouse?

THE CHAIRMAN: Storehouse?

MR. FRAWLEY: Oh yes, storehouse?

A Oh yes, the same. Residential quarters the same. Employees' garage the same. Boiler Plant expense, it is on a percentage basis for Number 1. Electric Plant expense the same. Turner Valley Office expense, the same. Laboratory Expense the same.

Q That Turner Valley office was an arbitrary percentage?

A An arbitrary percentage. The Laboratory expense is the same. Engineering Department the same. General Plant No. 1 expense the same. Camp and Sanitation, the whole cost of that is to Profit and Loss. That would be under your third classification. Fire Department the same.

Q THE CHAIRMAN: Profit and Loss?

A Yes sir, ditching machine operation, that is on a unit basis. With the exception of one or two very minor sub-classifications, those are the main departments. In addition, of course, as far as expense is concerned,

there are all the Administration charges which are not included in any of those operating departments. There is a sub-code to the Administration. I do not believe we will be asked for that.

Q MR. FRAWLEY: How do you say the Administration cost was distributed?

A It is not distributed.

Q Under any of these four methods?

A No.

Q THE CHAIRMAN: Perhaps that is as interesting as Camp sanitation. Let us hear about that.

Q MR. FRAwley: How is the Administration costs taken care of then? How are they distributed?

A They are not distributed. They are charged directly to Profit and Loss in toto.

Q Now, I will just ramble along and ask some questions. Does that mean that none of the expenses incurred under the head of Administration is charged to the Pipe Line Department? Ultimately does not some of it ultimately find its way charged against the Pipe Line Department?

A Not separately, no.

Q So that at no particular time can you tell us how much of the Administration costs should be borne by the Pipe Line Department?

A Not from the Company's books, no.

Q Then that was what you had to do when this Commission began?

A That is right.

Q So that ordinarily before that, from period to period, you were never able to tell your Head Office or the parent Company in New York how much of the Administration

cost was being borne by the Pipe Line Department?

A That is correct.

Q It was only when you more or less had to do it to show what the cost of operating this Pipe Line was as a separate thing that some method had to be arrived at, now, for the first time, of allocating that Administration cost or distributing that Administration expense. Mr. Morrison calls my attemtion to the fact that is not perhaps precisely so, because in the Jersey Statements which you prepared at each year end, there was a distribution of the Administration expenses was there not. You see I refer again to Exhibit "87d" and the item of Administrative and General Expenses for that year 1937 was $180,331.16, and that has been distributed has it not?

A The distribution shown on that statement is not reflected in the Company's accounts.

Q No, but I am merely calling your attention to the fact there was a distribution of that item of Administrative and General Expense of $181,000.00 odd. There was a distribution of that by some method in the Jersey Statements.

THE CHAIRMAN: On Page?

MR. FRAWLEY: Statement 87, Sheets c and d. You will see my Lord, on 87(d) under Indirect Operating Expense, Administrative and General Expense $180,331.16?

THE CHAIRMAN: Yes.

Q MR. FRAWLEY: Now Mr. Maw tells us that the books of the Company do not distribute that item of $181,000.00 odd. But I call his attention to the fact on Page 87(c) that there is a figure (1) at the very

bottom of the page, and then when you run along the line opposite the figure (1) you will find crude oil 26.897. What is that figure, Mr. Maw? What is that figure? A percentage? Have you got that Mr. Maw?

A Yes.

Q What I think I will do on my own copy is to put in the word "percentage". That is really what that is?

A That is a percentage.

Q Really we should put in a percentage symbol after that 26.897, is not that so?

A I think so.

Q Or "Per cent".

THE CHAIRMAN: Well he is now looking into it?

A Yes.

Q MR. FRAWLEY: So that that the figure 26.897 could be enlarged by putting in the word "per cent" after it, immediately after it?

A Yes.

Q Before we do that, is that correct?

A Yes.

Q That means that 26.897% of $180,331.16 was charged to the Crude Oil Department, if you will let me use that word "department"?

A Yes.

Q In this Jersey Statement for the year 1937?

A Yes.

Q And 5.037% of that same figure of $180,000.00 was charged to the Crude Naphtha department?

A That is right.

Q And 33.163% was charged to absorption gasoline?

A Yes.

Q And 19.365% was charged to gas?

A Yes.

Q And what we are mostly interested in, 15.538% was charged to Pipe Lines, is that correct?

A That is right.

THE CHAIRMAN: These are all per cents?

MR. FRAWLEY: Those are all per cents, yes.

Q On what basis was that division made, Mr. Maw?

A It was never made in the books of the Company.

Q No, but in this statement, somebody made it up and arrived at those various percentages?

A It was made on the basis of the revenue less purchases and inventory adjustments.

Q Yes, the net revenue?

A Yes.

Q If you go to the same page, 87(c), the top figure in red, in the lefthand corner, $3,129,951.56, that is a figure......

MR. COMMISSIONER LIPSETTE Let me get that statement.

MR. FRAWLEY: 87(c).

Q THE CHAIRMAN: You say this is made on the basis of net revenue and what else?

A Just net revenue. My definition was revenue less purchases and inventory adjustments. Mr. Frawley said net revenue.

Q With which you agree do you? Is that the same thing?

A It is a term which might mean almost anything.

Q MR. FRAWLEY: You mean net revenue?

A Yes.

THE CHAIRMAN: All right, put it your way.

Q MR. FRAWLEY: Gross Revenue less....

Q THE CHAIRMAN: What do you wish to say?

These percentages were arrived at on the basis of.....

A Revenue, less purchases and inventory adjustments.

MR. FRAWLEY: All right.

Q MR. COMMISSIONER LIPSETT: Just before you pass from those percentages. They are percentages of this figure $3,129,000.00, on the lefthand side of the line. That line you have given the percentages on, Mr. Maw, you have on the extreme left a figure of $3,129,951.56?

A Yes.

Q Are those percentages running along the line marked (1), are they the percentages of that three million odd figure?

A Well yes. That $3,129.951.56 is the net credit of that black debit in line (1), of $917,957.39, and the credit of $4,047,908.95, and the percentages running along are the percentages which each red figure above it bears to the $3,129,951.56.

Q Just going along with the percentages still, The percentage allocated to Pipe Lines is 15.538?

A That is right.

Q I do not know if you have seen Mr. Morrison's accounts for that year. Mr. Morrison gives the percentage of 14.18656. Is that a percentage of the same figure, do you happen to know? Would that be right, Mr. Morrison?

MR. MORRISON: That is the corresponding percentage, Sir, but on a different basis.

MR. COMMISSIONER LIPSETT: Not on the same gross figure?

MR. MORRISON: No, it is not on a revenue basis. It is on a labour ratio basis. It is supposed to distribute the same expenses but on a different ratio, but it does not deal with the three million dollar figure that Major Lipsett has been dealing with. That three million dollar figure is the basis for arriving at the percentage of 15,538. I did not use the revenue basis at all in arriving at the 14,186.

MR. COMMISSIONER LIPSETT: Therefore they are not comparable?

MR. MORRISON: They are not comparable so far as their method of arriving at them is concerned. They are comparable insofar as they distribute the total amount of expense to be distributed in both cases. But the basis of distributing all this expense and the method of arriving at the basis of distributing is different.

Q THE CHAIRMAN: They are dealing with the same thing, approaching it by different methods, and getting different results?

MR. MORRISON: Not quite, Sir.

(Go to Page 2220.).

THE CHAIRMAN: You are dealing with the same thing but approaching it by different methods, and so getting different results.

MR. MORRISON: Not quite, sir. The method of arriving at the revenue basis I ignored altogether. We both wished to distribute a certain amount of expenses and there are different ways of distributing that. The Jersey statements have used what we refer to as the revenue basis of arriving at the percentage and we distributed it on the labour basis.

THE CHAIRMAN: Which is a different method.

MR. MORRISON: Which is a different method altogether.

THE CHAIRMAN: Then, all right. We had a different method, and then you each get down, one working with the revenue method and the other on the labour ratio method, you get a different result, do you not?

MR. MORRISON: That is correct.

THE CHAIRMAN: So I think my statement is correct.

MR. MORRISON: Yes, the only point I wanted to make clear is the amount of money which we are going to distribute, that is the total which is subject to distribution, is the same.

THE CHAIRMAN: Yes.

MR. MORRISON: But we arrive at different methods of distribution.

MAJOR LIPSETT: Is the difference then, Mr. Morrison, that in the Jersey statements they allocate 15.538% to the pipeline and you in your result allocate 14.186%?

MR. MORRISON: That is the practical difference.

MR. FRAWLEY: For that year.

MR. MORRISON: For that year.

MAJOR LIPSETT: For 1937?

MR. MORRISON: For 1937.

Q MR. FRAWLEY: Mr. Maw, would it require much calculation to demonstrate how the 15.538 was worked out, will you tell us how the 15.538% was worked out?

A Well, the 15.538% is the percentage of $486,324.15.

Q Into?

A Into $3,129,951.56.

Q Yes, it is just as simple as that?

A Yes, $3,129,951.56.

Q Now, I want to call your attention to something else, Mr. Maw, will you look again at page 87(b)?

A The last page?

Q The last page; and we have been having that "Administrative and General Expenses", $180,331.16, and that has after it in brackets the figure (1), which means it is distributed on a basis of going back to page 87 (c) of 15.538% to the pipeline?

A That is correct.

Q Now, we come to another item, for instance the "Lease Rentals", Mr. Morrison suggests I run through the numbers (1) with you, Mr. Maw. All of those items which have the figures "1" in brackets after them, have been distributed, as has been the Administrative and General Expenses, on the basis of 15.538% to the pipeline, right?

A Correct.

Q And all the items which have "2" after them have been distributed on what basis to pipelines?

A None at all.

Q None at all?

A No.

Q In other words, there has been no portion of the items of expenditure on page 87(d), indirect operating expenses, which items have after them the figure (2), no question that those items have been charged to the pipeline department at all?

A That is correct.

Q And I suppose that confirms what Mr. Morrison said yesterday, when one looks down that list and sees the 2's, they are items which you put in, what you call your "Drilling of Wells Department"?

A Not necessarily. We were not guided by this statement in drawing up the list of indirect expenses which has been used in preparing the company's statement for the Commission, but I would like to add, - and I think Mr. Morrison will bear me out, - that we have both used the same classification for expenses.

MR. MORRISON: Oh, yes, that is between direct and indirect.

Q MR. FRAWLEY: Now, Mr. Maw, I wonder if you have said now all that you want to say?

Q MAJOR LIPSETT: On the last line of page 7, Mr. Maw, you get the total barrels of crude produced and under that the cost?

A Yes.

Q Is that the cost appearing from the company's books, of a barrel of crude oil, including all their expenses?

A That would be the cost at which they would value in their books any inventory of crude oil which they had at the year end.

Q Well, then, when you come to the crude naphtha in the next column, is that, that is the crude before it is treated in the refinery?

A No, sir. The crude naphtha comes from a gas well and the crude oil from an oil well, and it costs more to operate on the basis of this method of arriving at cost, - whatever its merits may be, - but it is borne out that it costs $1.67 to obtain a barrel of crude naphtha against 86¢ to obtain a barrel of crude oil.

Q This crude naphtha then has to be treated before it is sold as gasoline to the public, through treating?

A Oh, yes.

Q Now, when you come to the next column, Absorption Gasoline, is that gasoline in the state in which it is sold to the public?

A Absorption gasoline, and to some extent crude naphtha, are both sold locally as a cheap product, but they both come to the Calgary refinery as well for treatment; they are both sold in the raw state and they are both sold in the refined state.

Q Do you happen to know what the particular absorption gasoline, do you know what that is sold at?

A No, sir.

Q Well, that absorption gasoline, whatever it costs, $1.7882 per barrel, can you give us how that figures out at an Imperial gallon?

A Approximately 5.1¢.

Q Perhaps you can give me the corresponding figure for the crude naphtha too, Mr. Maw, for an Imperial gallon?

A Approximately 4¾¢.

Q Just to get it clear on the notes, Mr. Maw, I will put it to you then, the crude naphtha which appears from the Jersey statements to cost $1.6758 per barrel, converted into Imperial gallons, costs 4¾¢ per Imperial gallon?

A That is right.

Q And in the same way the absorption gasoline, which appears from the Jersey statements to have cost $1.7882 per barrel works out at a cost of 5.1¢ per Imperial gallon?

A That is right.

Q MR. FRAWLEY: Now, Mr. Maw, you see that you are interpreting these Jersey statements and you say that their purpose was to tell New York the cost per barrel of certain inventories.

A No, I said that the purpose of these two statements was to arrive at a figure at which to include, to arrive at a value at which to put the crude oil inventory in the balance sheet.

Q Yes, $1.7882, all right now, we do find, however, that there was care taken to tell New York something about the pipeline departments, because they were, the pipeline operation was included and a separate column given to it?

THE CHAIRMAN: What do you mean by "New York"?

MR. FRAWLEY: This went to the Standard Oil Company of New Jersey in New York.

Q MR. FRAWLEY: Mr. Maw, is that so?

A I believe so, I really do not know.

Q That, perhaps, should be cleared up by some of us, I do not know who first started calling them "The Jersey statements", I guess Mr. Humphries first started calling them "Jersey statements", and we do not want to be loose about these things, if we can be exact.

A Well, I do know that the accounts of the Royalite Oil Company are eventually consolidated in the consolidated balance sheet of the Standard Oil Company of New Jersey, and that is why these are called the "Jersey statements".

Q And they were prepared for and did go to the head office of the Standard Oil Company of New Jersey in New York?

A Yes.

Q Now, what were you endeavouring to tell the Standard Oil Company of New Jersey with respect to pipelines, that is what I want to know?

A Nothing.

Q Nothing. Now, that is just the answer, you were not desiring to or intending to tell them anything about the pipeline operations?

A That is right.

Q Now, why was.....

A That is my own opinion.

Q Well, why was it not left out then, could it not very well have been left out and the statement been that much shorter and more understandable?

A Well, it would not reconcile with anything, if you left it out; these figures will agree with the total revenue of the company as just an indication that they are correct.

Q You have seen Mr. Morrison's report, which has been filed, I presume, and he deals, interprets the Jersey statements, as we have called them, on page 7, is his summary of that a fair one, so far as you are concerned?

A Do you wish me to compare it with the Jersey statements?

Q Yes, if you have to do that. I thought, perhaps, you were familiar enough with the Jersey statements to be able to say without a great deal further examination, the figures

are all before you?

A Take, perhaps I can put it this way, if Mr. Morrison's statement is here.

Q Refer to page 7?

A If he has used.....

Q Page 7 of his report?

A If he has used the items of revenue and expenses as shown on the statements 1 and 2 of the Jersey statements.

Q Yes, which he tells me he has done?

A Which he has done, then I would say that they were of no particular value.

Q You say what?

A That they are of no particular value, this summary.

Q It may not be of any value but I want you to tell me whether it is a fair interpretation of the Jersey statements?

A No.

Q Well, now, why?

A Because it is based on misconception.

Q Now, wherein lies the misconception?

A The misconception is that this purports to be a statement of costs of the pipeline department.

Q Oh, and he has properly conceived what, whoever the person was who made up this percentage allocation, he has properly appreciated that, has he not, where is the misconception;on the part of the person who distributed it on the basis of 15.538%

A No, as I said before, these two sheets serve one purpose, I think.

Q Yes?

A And that purpose ceases with the first three columns.

Q Yes, I understood that now from your last answer, but you

say it is not intended to serve any purpose in connection with the pipelines?

A Exactly.

Q Mr. Morrison finds these statements prepared and forwarded by your company.....

A No, these statements are prepared by the Royalite Oil Company themselves.

Q By the Royalite Oil Company themselves?

A Yes.

Q Well, he finds these statements in the records of the Royalite Oil Company and he works on them and makes certain conclusions from them, they make their own distribution of indirect costs and he sets down in his report, page 7, what he finds in the Jersey statements, now wherein lies the misconception, perhaps I misunderstood you, did you mean to put any misconception on Mr. Morrison?

A No, I think I meant what I said, that perhaps Mr. Morrison had not been informed that the figures relating to the pipeline expenses as shown in here were not the company's considered opinion as to what constitutes pipeline expenses.

Q Costs?

A Costs.

Q Pipeline costs?

A Yes.

Q Well, let us see about that, these statements are prepared by the responsible officers of the Royalite Oil Company?

A Sure.

Q How can you say that this is not the estimate of those responsible officers of what the costs of the pipeline were, that is what it surely is, that much anyway?

A No, as I said before, they are interested only in the first three columns and only, I may say, to a very limited extent;

the inventories of crude oil and crude naphtha and absorption naphtha of the Royalite Oil Company never formed any more than a very negligible part of its assets; as a matter of fact, it has always been a source of some surprise to me that they have gone even to the extent of that much trouble, to try and ascertain the cost because.....

Q Because it is so unimportant?

A It is really unimportant relatively to the rest of their assets.

Q Anyway, whether they were wise or whether they were foolish, the officers of the Royalite Oil Company did arrive at what the pipeline revenue and expenditure was for the year 1937 in making up Exhibit "87(c)", did they not, by some method which they used?

A Would you read that question again?

Q (REPORTER - reading) "Q Anyway, whether they were wise or whether they were foolish, the officers of the Royalite Oil Company did arrive at what the pipeline revenue and expenditure was for the year 1937 in making up Exhibit "87(c)", did they not, by some method which they used?"

A They arrived at the result shown by this statement, let me put it that way.

Q Yes, it shows the cost of operating the pipeline for 1937?

A Again, as reported by that statement.

Q Of course. Now, then, Mr. Morrison has done nothing more nor less than to interpret those, and has he properly interpreted these Jersey statements with respect to pipelines at page 7 of his report?

A He has summarized those on page 7.

Q And the manner in which he has set them down contains nothing unfair or improper so far as you are concerned as an

accountant?

A No.

Q Now, there are a few other things that I want to clear up, Mr. Maw, with you, will you go to pages 19 to 21 of Mr. Morrison's report, there are just some terms there that I would like you to talk about; now, the first thing on page 19 is the word "utility" under "direct operating costs, oil gathering lines", utility $2,759.99?

A Utility labour.

Q Pardon?

A That is utility labour, that is under the heading of "Labour utility".

Q You know what I am asking, just the term, just that expression?

A Yes. I was wondering if, perhaps, this would give any more information than I have on it, "Labour utility", from pay-roll, this is the company's code which I am referring to, such as engineering labour; it really consists of the labour of men who would ordinarily be classified as "utility men", such as engineers, electricians, and men on pipelines.

Q When you say "engineers" you mean boiler engineers, and electricians, and that kind of workmen?

A Well, they are employed on such work as would entail their labour being charged to this department.

MR. FRAWLEY: Now, is that clear?

THE CHAIRMAN: No.

MR. FRAWLEY: Now, Mr. Maw, can you give us a concrete example of where some of that $2759.99 would appear in the records of the company?

THE CHAIRMAN: If they are men paid by the hour I could understand it but, otherwise, I suppose it is just

purely an arbitrary allocation?

A Not necessarily, sir. He is probably paid by the hour in any case, and if he were an engineer and were doing a job for the operation of the oil gathering line, which could not be classified exactly as repairs, it would be included under the heading of "Utility labour". There is really not very much difference between "Utility labour" and "Repair labour".

Q MR. FRAWLEY: Up above?

A Up above. For practical purposes the difference is really very slight.

Q Now, does it mean this, because we are awfully anxious to make it quite clear, Mr. Maw, does it mean that under this item of "Utility $2759.99" we find the case of an electrician who has been borrowed for a certain number of days or a certain number of hours and sent to do his particular kind of work on the oil gathering lines of the company?

A It might be.

Q It might be that sort of thing?

A Yes.

Q If it were that sort of thing that is where you would find it?

A Yes.

Q An electrician that ordinarily we would probably find employed in the main pumping station, we will say, in the electrical department of the main pumping station ordinarily?

A Yes.

Q And he is borrowed for some particular piece of work and sent out to do some electrical work in connection with the oil gathering lines or something of that sort?

A Yes.

Q That man then, a portion of this number of hours that he was

away on that work is put down under "Utility labour, direct operating costs, oil gathering lines" ?

A That is right.

Q On page 22, if you will go to page 22, please, to the statement of "Administrative and General Expenses". "Salaries of Administrative Officers and Employees, Administrative Office", take, for instance, take the last item in the period ending 30th September, 1938, the salaries of administrative officers were $20,438.35, I think you had better explain what that is, Mr. Maw?

A I can explain it generally, those are such men as Mr. McLeod, Mr. Hurd, Mr. Burns.

Q Who are these gentlemen you are naming, for the record?

A The General Manager, the Assistant General Manager, the Secretary, the Field Superintendent, and probably some others whom I cannot name.

Q Now, those are indirect costs again, of course?

A Yes.

Q And those come in only by allocation to the pipeline by some method of distribution?

A Yes.

Q THE CHAIRMAN: And the method adopted by the company is according to the relationship it bears to the revenue?

A No, sir, the company does not allocate its administration charges.

Q They put it all in the profit and loss?

A That is right.

Q And the only place we have any evidence of their ever being bothered allocating it at all is when they report it to the Standard Oil Company and then you say they only do it for the purposes of showing.....

A As a value inventory

Q MR. FRAWLEY: Let me ask you, perhaps an obvious question, take this $20,438.35, being a summary of administrative officers for the period 30th September, 1938, is that the total, is that all of Mr. McLeod's salary, for instance, and all of Mr. Hurd's salary; for instance?

A No.

Q Why is it not or why should it not be, oh, those are from the books of the company, I understand, I was, in my own mind I thought this was an item, this is the total of the salaries paid to administrative officers in the books of the Royalite Oil Company?

A That is right.

Q But your answer to me a moment ago was that all of Mr. John McLeod's salary is not in there?

A That is right.

Q Why, I do not quite follow that for the moment?

A Because part of his salary is charged to the affiliated companies.

Q Such as?

A Dalhousie, South West Petroleum......

Q Let us have those companies, please, for the record, the Dalhousie Oil?

MR. NOLAN: The Dalhousie Oil Company Limited, the Foothills Oil & Gas Company, Limited, the South West Petroleum Company Limited, the North West Company Limited.

Q MR. FRAWLEY: Well, now, to take, it may be of some assistance, take Mr. McLeod's salary now as an example, and let us discuss it for a moment, by what company do you know is Mr. McLeod's salary paid in the first instance, I suggest to you from an examination of the books it appears that Mr.

Arthur Maw.

McLeod's salary comes actually from the North West Company?

A I believe that is correct.

Q The whole of it, he gets a cheque from the North West Company each month?

A I think that is correct.

Q Then what is done about that?

A It is distributed by the North West Company on an arbitrary basis.

Q So that before we get to the pipeline department at all, just dealing with the Royalite Oil Company generally, we find a portion of Mr. McLeod's salary distributed to it, charged to it, the Royalite, by the North West?

A That is correct.

Q And in the $20,438.35 we find all of that portion?

THE CHAIRMAN: Is that right, Mr. Frawley, or does the North West just charge the Royalite an arbitrary sum and the Royalite then proceeds to arbitrarily fix what will go to the pipeline?

MR. FRAWLEY: Yes, that is what I am saying. Before we get to the pipeline at all we find the Royalite charged with an arbitrary portion of it by the North West Company, and all of that portion which has been arbitrarily charged to the Royalite we find in the item $20,438.35?

A Yes.

Q For that period?

A Yes.

Q So far so good. Now, do you know on what basis the Royalite Oil Company is charged with an arbitrary percentage of Mr. McLeod's salary by the North West Company?

A Not offhand, but, no, I would not like to say offhand on

what basis it is. I said an arbitrary basis but it is rather on a common sense basis.

Q Is it the same from month to month and year to year?

A That again I cannot say offhand.

Q Well, then, the basis may change from month to month?

A They could.

Q And then after the Royalite Oil Company get this percentage, a half or whatever it might happen to be, it then proceeds to distribute Mr. McLeod's salary among the various departments which you have listed for us to-day?

A No.

Q No? Now, then, what happens then to Mr. McLeod's salary when the Royalite Oil Company gets it?

A It goes to profit and loss with the rest of administration expenses.

Q That is true, of course, it all goes to profit and loss account and it remains there?

A Yes.

Q And there are only two occasions when, as the Chairman says, you attempt to break it up, that is yearly for the Standard Oil Company of New Jersey, and not yearly but now for this Commission?

A Well, I would say you do not do it at all.

Q You would say you did not do it at all?

A Yes, because I do not look upon these statements 1 and 2 of the Jersey statements for the breaking down of the administration expenses in the books of the company.

Q THE CHAIRMAN: But not on the books of the Company?

MR. FRAWLEY: It is a break-down though, is it not?

A Not on the books of the Company.

THE CHAIRMAN: I suppose somebody made these Jersey Statements?

MR. FRAWLEY: Yes sir.

Q THE CHAIRMAN: It was not you?

A No.

MR. FRAWLEY: No, the auditors apparently had nothing to do with it.

A Mr. Burns, I presume, is the man responsible.

THE CHAIRMAN: He may be the best man to tell you how that Jersey Statement was made up and why.

MR. FRAWLEY: Yes, I think that is a good suggestion. We cannot press Mr. Maw on these statements.

Q Well there is another item on this same page 22, Mr. Maw, Toronto Office Charges, and as in that period to the 30th of September, 1938, the Toronto Office Charge is $3,837.48, is that right?

A Yes

Q Now is that the whole of the Toronto Office Charges?

A I am afraid I cannot say very much about that. That is for 1938, and you will see that there is no comparable items in the previous years, and I have not finished our examination for 1938 yet.

Q It is certainly proper and obvious to call your attention to the fact in 1937 it was only $9.15 and in the years 1934, 1935 and 1936 there was no Toronto

Office Charge at all.

A Exactly, and for that reason I am afraid I am not in a position to say much about that.

Q But that is something you do audit?

A We will do, yes, but this is 1938 you are talking about.

Q And you have not completed it?

A No, we have not.

Q I see Mr. Morrison took the period ending 30th of September, 1938, and you are waiting until the end of the year?

A Yes, we do it to December 31st.

Q THE CHAIRMAN: When?

A They close their books on December 31st.

Q They, meaning the Royalite?

A The Royalite, and we have not done out audit for 1938 yet.

Q MR. COMMISSIONER LIPSETT: When is that audit generally completed?

A By the end of March.

Q Has that been the custom in the past?

A Yes sir.

Q THE CHAIRMAN: What do you mean by the books closed on December 31st, 1938?

A That is the close of their fiscal year, Sir.

Q December 1st?

A December 31st.

Q MR. FRAWLEY: Mr. Maw, there is one other question, Mr. Morrison yesterday began to detail his report at Page 19, Statement of Revenue and Expenditure for the nine months ended the 30th of September, 1938,

and as soon as he got to the first item he made it clear, taking the first item for instance, $2,698.12, being Department Heads or Foremen, under the heading of Labour, Oil Gathering Lines - he made it plain to us that he did not conduct an audit of this Company's books and that that item of $2,698.12 was an item he found in the books and accepted it as he found it. Do you understand that is what he did?

A Yes.

Q You, of course, being Price-Waterhouse Company of Calgary, are the auditors of the Company and you did audit the books and audit that item among many other thousands of items, and you say that - oh well, you have not done this one at all yet?

A We have done some work on 1938. But in any case an item of that nature, the correctness of this would be subjected only to tests. We would not make a complete detailed audit of every item. I think perhaps that - no perhaps I should not say that. I was going to say I thought detailed tests of the correctness of those expenses had been done for this year, but I won't say that offhand, because it may not have been.

Q My only point is I do not want anything going before the Commission unless it is accurate. Mr. Morrison has indicated his limitations and I wanted to add Price-Waterhouse and Company to Mr. Morrison for the accuracy of these figures. Are you satisfied with these figures of Mr. Morrison's?

A Yes.

Q That is a comprehensive answer? You are satisfied, as

auditor of this Company that these figures are correct?

A Subject to the completion of our audit for 1938.

Q Yes. Then let us go back one year, Mr. Maw, to the year 1937, which is pages 16, 17 and 18. Are you quite unqualifiedly satisfied that the first item there of $2,419.75, being the Labour Departmental Heads or Foremen, under the heading Direct Operating Costs, Oil Gathering Lines, is a true and correct one? If Mr. Morrison tells us he got it from the books and records of the Company?

A I do not really know whether I am in a position to answer that question, Mr. Frawley. I do not represent Price-Waterhouse,

Q No, but then I presume - well you mean you would rather have the local manager make that statement?

A I think that would be better, yes.

Q THE CHAIRMAN: We do not really care who makes the statement, Do you as a witness know or do you not?

A I would say to the best of my knowledge these figures are correct, but that is my opinion.

MR. FRAWLEY: I think Mr. Maw can say as much about them as Mr. Humphries.

MR.NOLAN: Just as much.

Q There are just one or two things I want to ask you about. These Jersey Statements are drawn and prepared on what we call a revenue basis?

A Yes.

Q And that means that the revenue of these various departments set out in that statement have to be brought down

to show what the total revenue of the whole company is. That is right is it not?

A That is right.

Q And that the Pipe Line is put in that statement only for the purpose of making its contribution to the total revenue for the year?

A I think so.

Q And that is the only reason the PipeLine is in?

A I think so.

Q It is a revenue producing department, and if you are going to gather your total revenue for the year, the Pipe Line Department has to show what its revenue was for that year.

A Yes.

Q It is not any break-down of the expenses of the Pipe Line Department being attempted, or is it?

A No.

Q Is it?

A No.

Q When I see at the bottom of this statement, 87(c) and (d), Cost per barrel - it says"cost per barrel Crude and Absorption naphtha"- does that mean the actual true cost per barrel?

A Oh that is rather hard to say. I do not suppose anybody could give the actual true cost.

Q What is that figure?

A That is a figure which the Company has decided as the approximate cost or near enough the cost to use for the purposes of including this inventory at cost in the Balance Sheet.

Q You have told us several times the Jersey Statements were

A. Maw.

made for the purpose of inventory. Inventory, what does that mean?

A It means the stock of crude oil on hand.

Q Do I understand that the Jersey Statement is for the purpose of ascertaining the value of the stock on hand?

A Well, let us get this quite clear. These two statements which we call Statements 1 and 2.

Q Of the Jersey Statements?

A Have been referred to as the Jersey Statements. I am talking about Statements 1 and 2.

Q Yes?

A Their sole purpose is for providing.....

Q Now you are talking about Statements 1 and 2; We have them numbered (c) and (d). Your Statements 1 and 2 are (c) and (d), and you were going to say what statements 1 and 2 are for?

A They are for arriving at the value, a cost value at which to include the inventory of crude oil and crude naphtha and absorption gasoline in the Balance Sheet.

Q Well are they the actual costs or are they not? per barrel?

A They are the estimated costs, estimated on the basis as shown on the statement.

Q They are the estimated costs, estimated as shown on the statement. Can I add to that, and merely for inventory purposes?

A Exactly.

Q MR. COMMISSIONER LIPSETT: Do you mean by that they are inaccurate for other purposes or for our purposes?

A No, I would not say that. It is an extraordinarily hard thing to arrive at an accurate cost of producing a barrel of oil, because it varies in every well. This is an

A. Maw.

average of all wells.

Q MR. NOLAN: An average for the year for all wells?

A For the year for all wells. I do not know of any better way of doing it than this.

Q MR. COMMISSIONER LIPSETT: Are you throwing any reflection on it as it is a figure which could be given for that purpose?

A For that purpose, no. For that purpose it is quite adequate.

Q MR. NOLAN: Why do we not use that basis for the purposes of this Commission?

A Because of the relative importance of the figures that we are dealing with. All that these statements were prepared for were for valuing the inventory, which, if you will refer to Exhibit "A", or rather Page "A" of the same Exhibit, in the Trial Balance you will see that the inventory of crude oil is $1,784.13, and Products finished and unfinished.....

MR. NOLAN: He is reading from Exhibit "87(a) (1)".

A Page 1 of the Classified Trial Balance on the first page. Under the heading "Inventories" Crude Oil, $1,784.13.

Q In dollars?

A In dollars. The next item, Products Finished and Unfinished, $10,253,50. Now it was to arrive at a basis for pricing the crude oil represented by those two amounts that these statements were prepared? Relatively unimportant figures.

Q MR. COMMISSIONER LIPSETT: It was intended, so far as possible, I take it, to be a fair representation and an accurate representation to the parent company?

A Yes.

Q MR. NOLAN: For inventory purposes you say?

A Yes. Well for Balance Sheet purposes. This classified Trial Balance is the basis of the Balance Sheet, and in the Balance Sheet these inventories will still be there in the same amount, $17,000.00 and some odd dollars.

Q Mr. Morrison has not used this revenue basis in his report to this Commission?

A No.

Q Do you agree he should have used it or he should not?

A He should not.

Q Why not?

A Because it is, in the case of the Pipe Line Department anyway, as he explained himself, the revenue increase out of proportion to the rate of increase of expense, and it would not be at all a fair measure of expense.

Q And these Jersey statements, are they part of the books of the Company?

A No.

Q What are they?

A They are prepared from the Company's books.

Q On forms?

A On forms.

Q Supplied by whom?

A I take it that the forms are supplied by the parent company, by the Jersey Company.

MR. FRAWLEY:

I think they must be, because I see one is printed in the

U.S.A.

Q MR. NOLAN: I stated before to the Commissioners they were not part of the books of the Company and I wanted to clear that up if I were wrong.

Q MR. COMMISSIONER LIPSETT: Are they taken from the books and prepared from the books of the Company?

A Yes, These figures are taken from the books of the Company.

Q MR. FRAWLEY: And Mr. Maw, they are from the books of the Company to the extent that the item on 87(d), $1,976,991.28, that that is the total expenditures of the Company?

A Well it should be.

Q It should be?

A When I say these figures are taken from the books of the Company, they are, but they are a conglomeration of a lot of figures. There are a lot of work sheets behind this. I would not like to say offhand that $1,976,991.28 has been directly tied up with the Expense Accounts as shown in the Company's books. Theoretically they should be the same.

Q Mr. Burns will clear that up for us when he comes. But would you say, looking at this as a stranger, that it purports at all events to include all the expenses of the Company?

A That is right.

Q And would you say primarily - perhaps you would say wholly - but primarily for the purpose of showing the figure at which the inventory should be held for crude naphtha and absorption gasoline.

A That is correct.

Q But the fact is though, that the Pipe Line Department, the Pipe Line expenditures and revenue have been added to this statement. That is true is it not?

A They are shown there.

Q And when you say that there is no break-down, I call your attention to the item on Page 87 (b) in the Column under Pipe Line, $77,041.06, which purports to be the indirect expenses of the Pipe Line Company, of the Pipe Line Department. A portion of the indirect expenses chargeable in the estimation of the man who made up this sheet properly chargeable to the Pipe Line Department, that is correct is it not?

A As shown on this statement.

Q It is correct, with the man who made up this sheet, and allocated $77,041.06 of the total indirect cost to the Pipe Line Department?

A Yes.

Q So that he was at some pains to show somebody what the cost of operating the Pipe Line was?

A No.

Q Why do you say "no" to that?

A Because I do not think when he made this up that either he or the people he was showing it to were in any way interested in the last column.

THE CHAIRMAN: The suggestion is, supposing that was not the primary object, that nonethe-less there would not be falsification?

A Oh no.

Q MR. FRAWLEY: It is perfectly obvious an

allocation of costs is it not, on a certain basis, which you may not agree with, but which he thought was good enough for his purposes then?

A Yes,

Q And he has used that for the information of the Jersey Company to tell the Jersey Company what it has cost to operate the Pipe Line, and what the Pipe Line Department has earned. That is true is it not?

A On the basis of these statements, yes.

Q That is all I am talking about are these statements.

THE CHAIRMAN: The man who made them will have to say what was in his mind.

MR. FRAWLEY: I am putting it to you looking at the statements, that is what they mean. They show the expenditures and revenue of the Pipe Line Department, that is all?

A I have never looked at these statements without knowing what they were for.

Q What?

A I have never looked at them without knowing what they were for, and I have never used them for any other purpose than to verify, to take the value of the inventory.

Q Suppose this Commission would like to use them - among all this other information would like to use them for what they are worth, to show what the expenditures and revenue of the Pipe Line Department were, according to these statements, then it is a simple thing to find out from them what the revenue and expenditures of the Pipe Line Department were?

A Yes,

A. Maw.

Q MR. NOLAN: I cannot leave that like that, because this Jersey Statement is drawn on a revenue basis, Mr. Maw?

A That is right.

Q And no one has used the revenue basis otherwise than in the Jersey Statement?

A That is correct.

Q You do not think that is the right basis?

A No.

Q MR. FRAWLEY: I do not know whether it is vital or idle, or not, but the fact is at one stage of the negotiations leading up to the presentation of Mr. Morrison's evidence, it was proposed by the Royalite Oil Company that he should use the revenue basis?

A I believe so.

MR. NOLAN: Oh no.

MR. FRAWley: I was present and I know that to be a fact.

MR. NOLAN: Perhaps you would like to give some evidence.

MR. FRAWLEY: No, but Mr. Nolan said "no" to that and I said "yes".

Q MR. COMMISSIONER LIPSETT: You have this figure of $1,976,991.23 on Page 87 (d) as apparently representing the total costs?

A Yes.

Q Is there a corresponding figure as representing the total revenues from all departments?

A Yes sir, on the previous page, (c), $3,129,951.56 is a comparable figure.

Q I understood that was the figure of $4,047,908.95 less the deduction of $919,957.00?

A Well that is. That represents the revenue less purchases and inventory adjustments, which is the figure which you would offset against your expenses. That is the figure which I think you want.

Q I have not got it quite clear. Is the $4,047,908.95 is that the gross income from all sources?

A Not quite. I think if you will reduce that $4,047.000.00 by the $917,000.00. The four million is gross credits. The debits directly offset it. The $917,000.00 debits directly offset it. The revenue is $3,129,951.56, all the revenue. And that is a figure which you wish to apply against your expenses of $1,976.000.00

Q If you look a little higher up in the column you find oils purchased, Turner Valley crude oil purchased?

A Yes.

Q Is that from their own wells or is that from outsiders?

A From outsiders.

Q And all this $917,957.39 is to outsiders?

A Except for inventory adjustments which is the same sort pf thing, yes. You see we have opening and closing inventories in there. It represents the income for the year, $3,129,951.56 is the income.

Q Of which you have to deduct $1,976.000.00?

A That is right.

THE CHAIRMAN: Mr. Nolan, for bookkeeping purposes, apparently there are a great many so-called departments, and I would like to know, over and above this, as to whether or not the Company has divided itself

into other practical departments. For instance we are told by Mr. Coultis time and again that he has to do with the Pipe Line Department.

MR. NOLAN: Yes, that is a recent innovation.

THE CHAIRMAN: I cannot think in the sense of an operating company that there is a whole department set aside for the employees' garage.

MR NOLAN: No, my Lord. That is not the suggestion of this witness, my Lord. All that the witness says is that under these Utility and Service Units there is an employees' garage which should be placed under one of four separate sub-heads, under that larger head.

THE CHAIRMAN: Yes.

MR. NOLAN: That is not a big department of the Company. What we have done this morning is perhaps go too far. What you want to know is for practical purposes how this Company is divided up?

THE CHAIRMAN: Yes. Taking the Utilities and Service Units. Is there a department separate and distinct for Gas measuring, and another department separate and distinct for Local Sales Stations? There may be?

MR. NOLAN: No, there is not, Sir, as I understand it.

THE CHAIRMAN: I rather gathered there were some general departments with departmental heads?

MR. NOLAN: Yes, there are. You are quite right.

THE CHAIRMAN: I would not think there

were department heads for all bookkeeping divisions we have had today?

MR. NOLAN: Quite right. What this witness has done he has given us the Company as departmentalized in the books.

THE CHAIRMAN: I understand that.

MR. NOLAN: Is not that right?

A I said before I gave any of that that this was the departments from the accounting point of view only. And now from the practical point of view, what we are interested in.....

THE CHAIRMAN: I am seeking something more. I am not criticising that which I have. If they are so divided in the books of the Company, they are. But I would like to know who are the responsible heads of the Departments, the departments under which this Company runs.

MR. NOLAN: Mr. Burns has to come and he can give us that specifically.

THE CHAIRMAN: If we have the heads of the departments we will get from them the parts of the work of this Company that they control, and they will perhaps serve to make a selective division that I am looking for at the moment, without deprecating the value of the Divisions given.

MR. FRAWLEY: Does it matter to you whether Mr. Burns comes in now or that we should continue with Mr. Morrison?

THE CHAIRMAN: Whichever you, as Commission

Counsel thinks will best serve all concerned.

MR. NOLAN: He is available at any time.

MR. FRAWLEY: I think we had better bring him here at two o'clock.

THE CHAIRMAN: Consider that during the noon hour and put on whatever witness you think best.

(At this stage the Hearing was adjourned until 2 P.M.)

....

MR. FRAWLEY: I will call Mr. Burns. We need not be very long with him.

THOMAS EDWARD BURNS, having been first duly sworn examined by Mr. Frawley said:

Q Mr. Burns, you hold what position in the Royalite Oil Company, Limited?

A Secretary and Treasurer.

Q And we were discussing this morning with Mr. Maw, Mr. Burns, the matter of the departmentalisation of your company and he told us about a lot of various departments that he found in the books, which he said frankly were merely for accounting purposes and it is desirable that we should know from you, what are the departments of your company from the operating standpoint, so will you be good enough to describe the different departments of your company and tell us who are the responsible heads of those departments so that it will be that much easier to understand?

A Yes. I think that with regard to the operations we can first say that there is the drilling department.

Q The drilling department?

A Yes, that is supervised by Mr. Floyd Walker; secondly, we have a production department.

Q Now the business, you might run them over first and then give us an idea of what they do?

Q THE CHAIRMAN: Production?

A Production, supervised by Mr. K. H. Hueston; those are the principal revenue producing companies.

Q MR. FRAWLEY: Or departments?

A There are others depending on how far you want to departmentalise. For example, there is the plant superintendent.

Q Stopping there, in a general classification you just gave us two departments?

A Two departments, yes, the drilling and production.

Q The drilling and production?

A Yes.

Q Don't you regard the pipeline department as a department?

A The pipeline has already been metnioned, that is another, yes, Mr. S. G. Coultis.

Q That is the third?

A Yes, you have already had that.

Q We are starting fresh now?

A You are starting fresh?

Q Yes, completely, so tell us all the departments of the company and their heads, so that we have an extra, the pipeline department superintended by Mr. S. G. Coultis?

A Mr. S. G. Coultis, that is right.

Q Any others?

A We have the natural gasoline plant.

Q Are they also---

A And the natural gas purefying plant, supervised by Mr. J. H. McKay.

Q What do you want to call this department?

A I would say the "plant department".

Q And natural gasoline plant and what else?

A A natural gas purefying plant.

Q But you put those all under "plant department"?

A Yes.

Q And those are supervised by Mr. J. H. McKay.

A Mr. J. H. McKay.

Q Well now let me stop you there, Mr. McKay then supervises the Nos. 1 and 2 absorption plant as well as the scrubbing plant?

A That is correct.

Q Now any more departments, that makes four?

A We have a mechanical department which embrases the garage, the forge machine shop and the storage-material warehouses and that is supervised by Mr. Walker L. Taylor; we have an engineering department supervised by Mr. G. D. Phelps.

Q Well that department, does that department operate as a service department to the drilling department and the production department?

A Yes.

Q Well if you desire to make it a separate department along with the other two?

A Well I am not sure just how far you want to go, Mr. Frawley; you might say that the mechanical department also serves the drilling and production department.

Q That is true, but we are anxious to have as accurate a classification as we can. Now have you any others, with that explanation with respect to the last two, have you any others?

A We have, no, I believe those are the principal departments, there is no need---

Q By the way, Dr. Link---

A The accounting department for instance.

Q Dr. Link is attached to which of those departments, by way of example?

A Dr. Link is attached to the geological department, that is another department.

Q Well you are giving us now the geological department, supervised by Dr. Link?

A That is right.

Q Now have you them all do you think, Mr. Burns?

A Well unless---

Q What about transportation?

A The transportation is supervised by Mr. Walker L. Taylor.

Q Mr. Taylor is in there as the mechanical department?

A Yes.

Q Well that is all of them, is it, Mr. Morrison does not like to give up the accounting department?

A The accounting department.

Q Have you an accounting department?

A Yes.

Q Supervised by yourself?

A It is under my own supervision.

Q Now there was another branch of examination, which I want to disucuss with you, would you look at that Exhibit "37", we had considerable discussion about that Exhibit "87", it is one of a series.

Q THE CHAIRMAN: Let me understand, transportation?

A The transportation is supervised by the same man namely, Mr. Walker L. Taylor.

Q What does it embrase, transporting oil by pipeline for example?

A No, it is just the trucks.

THE CHAIRMAN: All right.

Q MR. FRAWLEY: Now we had some discussion, that, I may say, Mr. Burns, that statement Exhibit "87" which you are looking at has been filed along with a number of other statements, Exhibit 83, 84, 85, 86, and 87 and they constitute what have been described here as the Jersey

statements for the years 1933 to the end of 1937 inclusive. We discussed that statement this morning with Mr. Maw of the firm of Price-Waterhouse, and he told us that that statement was not prepared by his company, the Price-Waterhouse Company; by whom was it prepared?

A It was prepared by the Royalite Oil Company.

Q Was it prepared under your supervision and direction?

A Yes, generally speaking.

Q You would say that as head of the accounting department I suppose?

A Yes.

Q Now what is the statement, Mr. Burns, what purpose is it intended to serve, why was it prepared and upon whose instructions and generally tell us all you can about the statement?

A Yes, this first statement is a classified trial balance.

Q You had better number them as you go along?

A This is 87 A.

Q 87 A 1?

A Well Exhibit 87 A, A 1 and A2 are all what could be described as a classified trial balance.

Q Just so that we will be all reading the same thing, the first sheet in the Exhibit 87 is 87-A-1, is that right?

A No, A.

MR. FRAWLEY: I notice ours is incorrectly marked then, 87A, you were going to say what?

THE CHAIRMAN: Mine seems to be 87A 1 too.

MR. FRAWLEY: Mr. Morrison did number yours, Mr. Chairman, like his own, but did not follow the Exhibit. Mr. Morrison was under the impression it had been marked A1, just strike out the "1", sir, after 87, and start off statements for the years [illegible]

inclusive [illegible]

[illegible] the firm of [illegible]

[illegible] statement [illegible]

[illegible] Comm [illegible]

[illegible]

[illegible] better number from [illegible]

[illegible]

[illegible] the same [illegible]

[illegible]

with 87A. Then the second sheet is 87A 1, that is where the error crept in.

MAJOR LIPSETT: That was put on it when the Exhibit was first put in.

MR. FRAWLEY: His Lordship is looking at the Exhibit itself, A, A1 and A2. Mr. Humphries did that, and Mr. Morrison at the table numbered it differently.

THE CHAIRMAN: The last witness was using the other numbers.

MR. FRAWLEY: He may have been, that is quite correct.

THE CHAIRMAN: All right, 83A, 83A 1 and 83A 2.

WITNESS: No, 87A.

THE CHAIRMAN: Oh I see, I am quite clear now. Now while we are at it, I have been busily remarking Exhibit 83 under your direction as I thought, it should have been 87.

MR. FRAWLEY: 87.

THE CHAIRMAN: Should 85 then be 83A, 83A1 and 83A 2?

MR. FRAWLEY: Yes, Mr. Chairman, they should be corrected and if you like we will take them and correct them for you.

THE CHAIRMAN: No, I will do it here, but I thought I would like to be sure I was doing it properly now. All right, 87A, classified trial balance for the year 1937.

Q MR. FRAWLEY: Very well, now you are commencing now to describe the whole of Exhibit "87" and you start off by saying 87A is a classified trial balance?

A 87A, 87A 1 and 87A 2 was a classified trial balance.

Q The first three sheets?

A The first three sheets.

Q Yes.

A That is correct. Statement (A) is a statement of inventory, that is of the physical volume of products, finished and unfinished, on hand at the 31st day of December 1937 together with items described as "other saleable merchandise". 87D is a statement of income by departments from products and pipeline for the year ending 31st December, 1937. 87D is a statement of direct and indirect expense account applicable to the cost of production and pipeline showing the application of expenses split by percentages calculated on the income by products.

Q Now you have described them. Now is there any necessary relationship between the classified trial balances 87A, A1 and A2 and the remaining three sheets, B. C. and D?

A No necessary relationship, no.

Q They are all forwarded to the Jersey Company together and that is why they are here together perhaps?

A That is why they are together here, yes.

Q Because we are not very much interested, I may say, at the moment in the classified trial balances. Now the next statement 87B, why was this prepared?

A Well if you will refer to the first item of the trial balance you will see where the value of the oil is shown at cost.

Q Yes.

A And that appears on the first page of the classified trial balance, Exhibit A, as $1784.13.

Q I am afraid that they are all related all right, Mr. Burns, because you see you go right through from one to the other?

A Yes.

Q You have $1784.13 as being the inventory of crude oil on 87A, then, that is your trial balance, then on 87B you find that item of crude oil, being 86940 U. S. gallons at .02052139¢ per gallon, which makes $1784.13, but to get that price per gallon of .0205 and so on you go to 87D, and you find there a price of .8619 dollars per barrel, which is the .02052139¢ per gallon, do you follow me there, that is correct is it?

A I am not sure of my calculation, Mr. Frawley. There are no calculations here per gallon but the .8619¢ per barrel is right, I mean .8619 dollars per barrel.

Q MAJOR LIPSETT: Can you give us the calculation for gallons from that?

A Yes.

Q That long decimal figure is per gallon, the U. S. per gallon?

A Oh this, yes, that is it, you are correct.

Q So we must read all of those five or six sheets together, that is what I mean, pretty well have to, have we not?

A To fit the tie-in one with the other, you should, yes.

Q Yes.

A That is correct.

Q Now what I am really concerned with and let me come to it at once, are the sheets 87B and 87D, now my first question is, the other statements are on forms, forms which are numbered, they are all B.P. forms and do you know of any significance attached to that, what is that B.P.?

A Yes, this is a calculation made locally. It is not a standard form of calculation or method for valuing the inventories. The inventories are negligible in this Company, that is the inventories of products.

Q THE CHAIRMAN: Mr. Frawley wants to know what the letters "B.P." signify?

A No, I do not know.

Q MR. FRAWLEY: The letters on the form, that classified trial balance is B.P.5563 and 87D, which we now call it, is B.P.5579, have you any comment to make on that at all, do you know what that means at all?

A No I do not.

Q Anyway those are forms sent to you by the Standard Oil Company of New Jersey, is that right, a blank form?

A That is correct.

Q And you use them to make the returns, make up the statements 87A, A1, A2 and 87B?

A That is correct.

Q But when you come to make up 87C and D you just use ordinary blank paper, now what have you to say about that, anything?

A No, there is nothing to say. This is our own local method.

Q Where do you get the captions, where do you get the various classifications might I say, used in 87A, A1 and A2?

A Those names are supplied to us by the comptrollers department of the Standard Oil Company of New Jersey.

Q Of New Yersey?

A Yes.

Q And where do you get the classifications on Exhibit 87B?

A Those too are furnished to us by the Standard Oil Company of New Jersey, that is the way they wish the accounts made.

Q And 87C "cost of producing crude oils. Income by departments from products and pipeline. For use in computing cost of producing oils".

A Yes.

Q And the classification, that all comes from the Standard Oil Company?

A Not in the case of producing crude oil, income by department, they do not use that.

Q Now let me understand, what is not part of your directions from the Standard Oil Company?

A The statement "cost of producing crude oil, income by departments from product and pipeline, for use in computing cost of producing oils", this is our own wording.

Q What instructions do you get then when you, what instructions have you before you when you set about to prepare statement 87C, each year?

A We have no instructions.

Q You have no instructions?

A No.

Q Well then why do you prepare it at all, do you mean you have no instructions to prepare this at all?

A No instructions. As a matter of fact we have instructions now not to send it any longer.

Q Well but you did send them up until the end of December, 1937?

A Yes.

Q I just want to know whether the whole of this statement 87C originated entirely in your own mind, not in your own mind, but under your direction?

A Well the names of the accounts are those used throughout the accounting department of the Standard Oil of New Jersey and its subsidiaries.

Q THE CHAIRMAN: As furnished to him by the comptroller?

Q MR. FRAWLEY: Yes, these classifications, but the comptroller of that company did not ask you and did not give you any instructions in the past to prepare a statement of the kind 87C?

A No, no, we have instructions not to submit, - we may prepare and we may value our inventory in the future in any

reasonable method that we like but we are not to send the statement down any longer, they do not want it.

Q I know, that is what you say, but at the time you were sending it did you send it on instructions at that time?

A I didn't.

Q You sent it without any instructions?

A Without any instructions.

Q From anybody?

A From anybody.

Q From no one?

A From no one.

Q So you assume personal responsibility wholly for the preparation of that statement and sending it off to the Standard Oil Company?

A I do.

Q Now why did you prepare it, Mr. Burns?

A To indicate to the Standard Oil of New Jersey the methods used in valuing the inventories.

Q In valuing the inventories?

A Yes.

Q Because you say it was necessary that you should make some statement of that kind because otherwise you would never arrive at the figure per U.S. gallon that appears at the top of page 87D, that is correct is it not?

A Well it would not have been necessary because they did not want it any longer.

Q You could have just given them the results you mean?

A Yes.

Q These are sort of working papers?

A Working papers.

Q Substantiating 87B?

A Substantiating, that is correct.

Q All right. What you mean is they would never know how you arrived at that figure and the, which they were using for their inventory purposes, they would never know how you arrived at it?

A That is correct, that was my reason in sending it, I wanted to tell them how I arrived at it.

Q To tell them how you arrived at it?

A Yes.

Q And now you say they are going to get statement 87B which shows per U.S. gallon what the value of the crude oil is and they are just going to accept it?

A Yes.

Q And they are not going to have anything back of. that to show how you arrive at it?

A Correct

Q So that it was for the purpose of enabling the company to know what the price per U.S. gallon of this crude oil was, of this company's crude oil, that you prepared the statement 87C and 87D?

A Would you repeat that "for the purpose"?

Q I say it was for the purpose of enabling the parent company to know how you arrived at the valuation of the crude oil inventory that you worked out and prepared and sent forward statements 87C and 87D?

A That is correct?

Q Tell us something more about this statement, why you divide up the expenses into those four and the revenue into those five classifications of crude oil, crude naphthas, absorption gasoline, gas and pipeline?

Q Can you tell us something more about these statements then, why you divide up the expenses into these four, and the revenue into these five classifications, Crude Oil, Crude Naphtha, Absorption Gasoline, Gas and Pipe Lines?

A I divide them for the reason that that is where the income, that is where the income had been derived from.

Q That is where the income had been derived from?

A Yes, from operations.

Q Do you need the income from all of these departments to allow you to arrive at the value per barrel of Crude Oil which the Company produced?

Q No. That is a method of evaluating inventory. We have accepted it here. It is not necessarily an accurate method. As a matter of fact no one can ever know what it actually costs us to produce the crude oil, because there is no equation that I can think of between wet products, natural gas and pipe line income. I cannot think of any.

Q What you mean is this, the method being just a method which you selected?

A It is a method.....

Q This is on a revenue basis?

A Yes. It is purely a method which I selected myself.

Q And it is the method that is used as of this date in any event, the method used to show the standing of the Company in its published statements to its shareholders?

A That is correct. The inventories of the values are in the published statements to the shareholders, on

that basis.

Q And insofar as it throws any information and any light on the Pipe Line Division, it shows the revenues derived in the Pipe Line Division?

A Statement "C" shows that.

Q And it shows the expenditures incurred by the Pipe Line Division?

A That statement "D" shows the direct operating expenses, and purports to split the indirect.

Q It shows the direct operating expenses as $111,140.58, and purports to split the indirect expenses?

A The indirect operating expense.

Q The indirect operating expense, yes. Between Crude Oil, Crude Naphtha, Absorption Gasoline, Gas and Pipe Lines.

A That is correct.

Q And you did, however, by this method satisfy yourself as to what the Pipe Line Department earned and what it cost?

A Yes. Of course there are many features of expenses and income which are not included here. That is these are not considered applicable to operation. Income from investments, you might say, is not included in any of these statements. Capital losses and capital gains have been excluded, and the calculations from the figure of depletion which is put in here as $478,645.27 is the allowance by the Dominion Income Tax without any relation to how much may have been the physical depletion of the property.

Q MR. COMMISSIONER LIPSETT: Where is that figure?

A It is on Statement "D", Sir. The depletion is $478,645.27.

Q MR. FRALEY: Mr. Burns, would you agree with this proposition, this method that you used was regarded by you as good enough to indicate the inventory value of the Company's product, you did use it for that purpose and sent it forward for that purpose?

A We did use it for that purpose.

Q Then you are still using it for that purpose?

A When I say we are still using it, the last year it was used.

Q The only difference between what you are going to do from now on to what you have done in the past, is you are going to keep at home these last two sheets, 87 (c) and (d)?

A So long as the inventories remain as negligible as they are today, I intend to use this method to evaluate.

Q And you will continue to show in the future the Crude Oil at a price per U.S. gallon, arrived at by using a method similar to that which you used in Exhibit "87" (c) and "d"?

A Yes, so long as the inventory remains as negligible. If they should become greater, then I might consider other, and perhaps seek independent accounting advice to determine other methods of evaluating these inventories.

Q But at least now it is, as I say, using the expression again, it was good enough to send to the Jersey Company to show the cost per unit of their crude and other stocks?

A That is correct.

Q I suggest to you if it was good enough for that, then it

is of some value with respect to the other purposes for which you used it in these sheets, namely to show the Pipe Line revenues and expenses. Do you regard that as a reasonable inference?

A For the practical accounting purposes of the Company, yes.

Q All right, thanks.

Q THE CHAIRMAN: Do I understand, Mr. Burns, you arrive at these figures on a revenue basis?

A Yes.

Q And that you say may or may not be an expression of the true costs say to the Pipe Line?

A It may not be more than it might be. The true cost is, in a Company which functions as the Royalite functions, with so many different sources of revenue, it is difficult to make application of the indirect costs. It is very difficult.

Q You have never done it?

A Well......

Q Other than by estimation?

A Other than by estimation, yes sir.

Q Which, as I understand you, when you get right down to it, is bound to be an inaccurate method. It might happen to be accurate on occasions, the result may happen to be accurate, but the method cannot be said to be strictly accurate as a means of arriving at the true cost.

A That is correct.

Q And so as I understand you, you, as the Chief Accountant of the Royalite Company, have never had occasion to ascertain what is the true cost of operating your Pipe

Line?

A That is correct, Sir.

Q And at this minute you do not know?

A No.

Q And not knowing the true cost you cannot either know what is the true profit in respect of operating your Pipe Line, is that right?

A That is correct, Sir.

Q Is that true of all the other Departments of your Company?

A That is true of all the other Departments.

Q Your indirect costs you place to profit and loss?

A The indirect costs are placed to profit and loss, yes.

Q They are not charged to any particular department in the first instance? If you want to arrive at what indirect costs should be allocated to, say the Pipe Line, it must be done arbitrarily?

A It must be done arbitrarily.

Q Taken out of Profit and Loss and charged against that particular department?

A That is correct.

Q So that to sum up, you, as Chief Accountant of Royalite, have no idea what the operation of any particular department in the Royalite is costing?

A No. That is true. If I were asked to prepare a statement with regard to any particular department, I would then have in mind the factors entering into the statement which I was preparing.

Q But you would still have to make arbitrary allocations wouldn't you?

A I would still have to make arbitrary allocations, yes.

Q Yes. In short - I am not criticising it, I am trying to find out what the fact is?

A Yes, I understand.

Q Your bookkeeping methods do not permit of the allocation of the cost or the ascertaining of the profit in respect of any particular department of the Royalite, of which there are many?

A That is correct. We do, however, make an arbitrary split of these costs.

Q Yes, which you put in in any column you like. Your indirect costs are first put to Profit and Loss?

A Yes.

Q You can take that out and put it into another or any column you like to?

A Yes, that is true.

Q Arbitrarily?

A Arbitrarily.

Q But in point of fact you have never had occasion to do this, as I understand you?

A That is absolutely true, Sir. Can I give you an example of how difficult it is. Here is a well which is the fountain source of all our income; produces perhaps oil, wet products and at the same time produces natural gas. These products are ultimately sold and there is a certain amount of both direct and indirect expense in connection with the handling and the sale of those products. The transportation of them by pipe line. But it is difficult and no one can, I do not think, say with any accuracy how much of these indirect costs are applicable to this gas which came from this well,

or that well, or this oil which came from that well, having regard to the fact they all come from the same source.

Q And then, of course, there are further difficulties by virtue of the fact that other companies share in these indirect costs?

A Yes, other companies, true.

Q That is other allied companies?

A Other allied companies.

Q We were told, I think, for example, that the North West Company pays all of John H. McLeod's salary, that is your General Manager, that is correct, I suppose?

A No, that is not true. We are charged. He is actually paid from Sarnia, Ontario, by Imperial Oil Limited, and we are charged with a debit note representing salaries of certain persons in our organization. I do not know what the individual salaries of those persons are except my own. They are all paid by the Imperial. Mr. McLeod is paid, and I am paid, by the Imperial Oil Limited, Sarnia, This debit note comes into us monthly showing that sundry salaries have been paid to your account and we do make a split up of them to the Royalite.

Q MR. FRAWLEY: From whom does that debit note come?

A It comes from Imperial Oil Limited at Sarnia.

Q To whom does it come?

A It comes addressed to Mr. John McLeod, in person, confidentially.

Q But to what Company, does it not come to some Company,

Who credits Imperial, Sarnia? I am told that is the way to ask the question?

A It is addressed, I believe, to the North West Comoany.

Q That is what we get back to then. Mr. Maw told us the North West Company paid Mr. John H. McLeod's salary in the first instance, and they charged the Royalite a portion?

A The North West Company does make a charge to the Royalite.

Q Then Mr. Maw's evidence was quite correct?

Q THE CHAIRMAN: As I understand it, the Imperial issues its cheque direct to Mr. Burns or Mr. McLeod, as the case may be, and charges North West?

A Charges the North West Company.

Q MR. FRAWLEY: Then the North West Company makes a distribution. The North West charges Royalite something, Dalhousie something and the South West Pete something, and so on?

A That is correct, yes.

Q THE CHAIRMAN: And what is charged to the Royalite, when the entry in respect of that charge is being made in the books of Royalite, it is in Profit and Loss?

A It is. It is made first of all to an account called Administrative and General Expense. It is not allocated for any department. It is closed directly to Profit and Loss at the close of the accounting.

Q MR. FRAWLEY: You say you receive a debit note from the North West Company, and perhaps if I call it a direction to split in accordance with

certain methods, keeping to Mr. John A. McLeod's salary, keeping to that for the moment?

A That is true.

Q THE CHAIRMAN: They make the split. They do not tell the Royalite to split it?

MR. FRAWLEY: That is the point I am coming to. The Royalite has nothing at all to do - just follow me as far as you want to know further - has the Royalite anything to do with deciding how much of Mr. John A. McLeod's salary the Royalite is going to pay?

A Yes.

Q Now how?

A When you say Royalite you must mean myself, because I am also the Royalite. Part of it.

Q Your salary you mean, but I am just taking the instance of.......

A And my work. I do this. I make the split.

Q As I understand, the Imperial Oil Company pays Mr. McLeod's salary from Sarnia?

A Yes.

Q Then the next item is that the North West Company is charged the whole of that salary by the Imperial Oil Limited, is that correct?

A That is correct.

Q Then the North West Company does something. Precisely what does it do with respect to Mr. McLeod's salary?

A It charges it to Royalite.

Q Yes. Now the North West Company, as a separate legal entity, decides how much of Mr. McLeod's salary is going to be charged up to the Royalite Company?

A Well the Royalite as a separate legal entity can also say how much they will accept.

Q Quite, and I want to know how is that arrived at. How is that percentage arrived at? Does the North West Company do it on its own account?

A I make the split.

Q Then you must make it as an officer of the North West Company. You have just told us the North West Company did it, and you are also the North West Company?

A I am the Chief Accountant of the North West Company.

Q That is, Mr. Burns, as Chief Accountant of the North West Company makes the split?

A That is correct.

Q And the Royalite Company will do what Mr. Burns says? From whom do you obtain instructions or directions as to how to make that split, the North West Company, in the making of that split?

A I make the split myself. I receive no directions or instructions from anyone.

Q Still it is the North West Company making that split.

A True, and it is the Royalite accepting it.

Q The Royalite accepts it, yes.

THE CHAIRMAN: He makes the split as accountant for the North West and approves of it as accountant for the Royalite.

Q MR. FRAWLEY: You get together with yourself and you make the split and accept the split, and that is how it is done?

MR. NOLAN: No, as accountant for the North West Company he does something, and as accountant for

the Royalite he does something else. He does not get together with himself.

MR. FRAWLEY: Do not be too sensitive about these clients of yours.

MR. NOLAN: Someone has to protect them with you here.

MR. FRAWLEY: Thanks very much. I do not take that with too good grace. I am not here after your Companies at all. If you think so, perhaps you had better say so, to the Commission. I have heard a lot of it lately. I am trying to do my job with this Commission, and I do not relish hearing that I am trying to make it difficult for the Imperual Oil Company or any of its organizations. I wish to put myself on record for that.

Q Now as accountant for the North West Company, you split Mr. McLeod's salary, and you allocate it among the other associate companies? I just want to know whether that is done after there has been a conference between the proper officers or directors of the North West Company and the proper officers or directors of Royalite. It is not done just in a haphazard fashion, I suppose?

A No, it is left to the accounting department.

Q It is left to you to do it as accountant for the North West, and it is left for you to do it, to approve it as accountant for the Royalite. That is true is it?

A That is true.

THE CHAIRMAN: You might go on and find out if he is accountant of all these other companies,

T. E. Burns.

MR. FRAWLEY: You are the Chief Accountant for the Dalhousie Company?

A That is correct.

Q And the South West Petroleum?

A That is correct.

Q THE CHAIRMAN: And Foothills?

MR. FRAwley: And Foothills?

A Yes.

Q And others, The Mayland Company?

A No, that is another Company of the Mid-West, but it is not operating.

Q THE CHAIRMAN: Is it charged with any of these indirect costs still?

A No.

Q These four companies are?

A These four companies are, Well the five companies, I should say, Sir, the Royalite; North West, Dalhousie, South West and Foothills.

Q MR. FRAWLEY: Yes. Now are you able to tell us what division is made of Mr. McLeod's salary between these companies?

A No.

MR. NOLAN: Percentage or amount?

MR. FRAWLEY: Percentage that is?

A No, I am not able to tell you.

Q Is it the same from month to month?

A I can inform myself on that.

Q Is it the same from month to month?

A No, it is changed as conditions change. As operations are heavier in one company or the other, it will change

from time to time.

Q You distribute it differently from month to month?

A Not from month to month.

Q Not from month to month? ~~It is the same from month~~ to month, but it might vary from year to year?

A That is right.

Q Or period to period? You might let it run along on a certain distribution for six months, and then change it?

A That is correct.

Q MR. COMMISSIONER LIPSETT: What is that change based on, revenue or profits or what?

A It is an arbitrary split, Sir. We sometimes use the labour ratio basis. Generally that is the one we try to follow, but I would not say that that is always the guiding factor in doing it. We have no exact method.

Q What is operating in your mind when you make one of these changes. What is the reason for it?

(Go to Page 2276).

A Well I cannot recall it just now. I can go back to the record and see what happened at the time the last change was made.

Q MAJOR LIPSETT: You would not come down some morning just out of the blue and say you would charge double?

A No.

Q The proportion of Mr. McLeod's salary to the pipeline, there would be some reason for it, would there not?

A Oh there would be some reason.

Q And you cannot give us any idea at the moment what that is?

A No, I am afraid I cannot, sir. It was just a habit to change it from time to time but I cannot recall just when the last change was made. I have been trying to think of that while I was standing here and what the circumstances of it were but I cannot recall it.

Q THE CHAIRMAN: Will you just enlarge on that labour ratio basis?

A The labour ratio basis?

Q Yes.

A The number of men employed in the department or company.

Q You used that basis in connection with these charges to the different companies?

A We did some years ago, I recall that very definitely, because at that time the Northwest Company had quite an active drilling campaign, they were drilling several wells.

Q And you don't recall whether you used that basis recently or not?

A No I do not, sir.

Q These other companies which have been mentioned, the Foothills, the Northwest Pete, the Northwest Company Limited, are they producing companies or what?

A The Dalhousie Company Limited is a producing company and operating in the Turner Valley; the Southwest Petroleum is also a producing company operating in the Turner Valley; the Foothills Oil and Gas Company is in the same category and Royalite in the same category, with the exception of its pipeline which it operates outside of the Turner Valley; the Northwest Company owns lease-hold properties throughout the Province of Alberta and other Western Provinces and in the North West Territories. It operates a small refinery about 50 miles below Fort Norman on the McKenzie River and it has two producing wells at that point. I believe that covers it.

Q Just to refer to these pages for a moment, this 87 (C) take that figure of 15.538% total cost allocated there to pipeline, you need not go over the ground again, as I understand you that cannot be considered to be correct for the purposes of determining a pipeline rate in your opinion?

A In my opinion it cannot be considered to be correct for the purposes of determining a pipeline rate.

Q Yes, and for the sake of clarity rather than emphasis, I want to be clear that you are unable to tell this Commission what the costs of your own company in respect of the pipelines are, or what the profits are, with a view to fixing a rate.

A I am unable to actually say what the costs of operating, of transporting oil by pipeline are.

Q Nor what profits your company made?

A Nor what profits.

Q In respect of that?

A Nor what profits the company made in respect of that.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Q Or what losses they may have suffered?

A Or what losses they may have suffered.

Q And is it because during all these years you have never had occasion to ascertain what those figures are or is it that it is impossible to ascertain?

A I believe it to be impossible to ascertain it, sir, to accurately ascertain them.

Q So that for the purposes of doing that which we are required to do, namely recommend a fair and proper rate, we are unable to get any assistance from the company that is operating the line, which we will know to be accurate, it would only be an estimation?

A That is true, sir. That would also be true about, with any other accountants that may submit any.

Q Quite true.

A In my opinion it would only be an estimation.

Q Now as an accountant can you tell me, supposing the pipeline, so-called, department as it has been called by some witnesses, Mr. Coultis for example, supposing all that might be said to be embraced by the pipeline department in your company, were a separate legal entity, would any of these difficulties arise in accounting?

A No, the company would then receive invoices, charges, which would, might be accepted as conclusive and final, that those were the charges which the other subsidiary company was rendering to it.

Q The confusion then arises, if there may be said to be confusions, and I do not say that disrespectfully to your company, but the confusion arises through the many departments that are operating under one company and the close relationship between that company and many other companies?

A And other companies, that is the truth of it, sir. yes.

Q MAJOR LIPSETT: Just on one point which occurs to me, if this were a separate entity, would there be any necessity for, for instance, Mr. McLeod's salary going down to Toronto and then coming through the North-west Company?

A Well it would depend if Mr. McLeod was an officer of that separate company, if he was actively engaged it would not be necessary.

Q I am putting it to you from this point of view, is it just appliable when we are considering the rate to take into consideration the number of offices that Mr. McLeod's salary has to go through, in other words the duplication or triplication of the existing offices?

A No, I do not know that a duplication or triplication of expenses, there is no attempt made to capitalize on any of these salaries, they are split in proportion, they are not enhanced, if that is what you mean, sir.

Q These various offices and staff in Toronto and this North-west Company, have to be paid?

A That is correct.

Q Are they necessary then to enable the paying of Mr. McLeod his salary in your opinion, or rather the pipeline, as a separate entity?

A I cannot see that that would make any difference so long as Mr. McLeod was actively connected with it any more than if he was connected with the Dalhousie Oil Company. He is an executive officer of that and that is a separate legal entity.

Q Has Dalhousie and its accounts paid any part of the expenses of the Toronto office?

A No, nor the Royalite.

Q THE CHAIRMAN: Have you any Toronto office?

A No.

Q It is the Imperial?

A Yes. The Toronto office charges are charged to the Northwest Company. There may be some travelling expenses or consulting costs but generally---

Q Well now are part of the Northwest expenses charged to the pipeline, to the Royalite?

A Part of the Northwest Company's?

Q Yes.

A No.

Q No part of that?

A No part of it except that those expenses considered to be purely Northwest, now these, I have already explained that we duly receive a debit note from Sarnia charging a stated amount for administrative salaries and that is charged to the Northwest Company; the Northwest Company splits it among, takes a portion of it itself and splits it among the other subsidiaries of the Imperial oil Limited operating here.

Q Including the pipeline of the Royalite?

A Including the Royalite Oil Company, yes.

Q So that Royalite is paying part of the expenses of the Imperial administration at Sarnia?

A No, no.

Q Through the Northwest?

A No, it is not. All of the administrative salaries which are charged by Sarnia are persons actively engaged in this work, in this department.

Q Well then is Sarnia doing all this office work and administrative expenses voluntarily for the subsidiaries?

A No, they make a cheque, draw a cheque or five cheques and send them---

Q I suppose the man in Sarnia who draws these five cheques is paid a salary?

A Yes.

Q Is part of that salary for an expense of that sort charged by Sarnia to the Northwest Company?

A No it is not.

Q Well then the position, if you send Sarnia a cheque for Mr. McLeod's salary, then you get that cheque back?

A No, they charge the account of the Northwest Company on their own books and---

Q With just that amount of salary??

A With the exact amount of the salaries of the persons who are actively engaged in the producing department. Not any other salaries.

Q Is the routine this then, that you first send the money from Calgary, from the Royalite to Sarnia and they send it then back to Northwest and then the Northwest splits it up, you then have three operations, have you?

A No, we do not first of all send the money there. They send it to us. They send the cheque and charge it to the account, charge the amount of these salaries to the account of the Northwest Company Limited, on their books, the Imperial Oil Books in Sarnia.

Q Then is the position that the Imperial first remits that money here to Calgary and then you send it back to the Imperial?

A No.

Q Your amount of it?

A No, it is not sent back, it is accounted for and taken up as a payable, on the books of the Northwest Company here.

Q And that is done all without any charge to the Northwest or Royalite?

A None whatever.

Q I just want to come to another matter with you, Mr. Burns, on this 87 (D), Mr. Maw was good enough to reduce this on the last line of all, he gave the figure in cents per gallon represented by the figures of crude naphtha?

A That would be on the statement.

Q 87 (D) the last page?

A The figure of cents per gallon on "B".

Q Now in his crude oil you have the figure there of .8619 per barrel.

MR. FRAWLEY: It is on "D", Mr. Burns?

A Oh yes, .8619 per barrel, that is right.

Q Is that the same figure as the .0205 per United States gallon on 87 (B) the top line line of 87 (B)?

A I will have to work that out, this would be the United States gallon. I was going to multiply it by 42 but I may be wrong, that would be on the United States gallon, yes it is.

Q Now that is a little over 2¢ then, the United States gallon that the crude oil has cost, according to those figures.

A According to those figures, that is correct.

Q Now can you give me the figure for an Imperial gallon, would that be too much trouble?

A I make it .0246.

Q That is just a little less than 2½¢ per gallon?

A That is correct.

Q Imperial gallons for the crude?

A That is correct.

Q Now, Mr. Burns, will you go back to "87(c)" that is the previous page?

A Yes.

Q We have this percentage of 15.536?

A Yes.

Q If you change that percentage and put the larger figure, the larger percentage of these indirect costs on to the pipeline, we have to correspondingly reduce the charges against the crude oil, crude naphtha and absorption gasoline?

A That is correct.

Q So that if someone took the larger, or a different analysis were made for the pipeline, the indirect expenses, these figures of 8½¢ per gallon of crude oil and 4¾¢ per gallon for crude naphtha and 5.1¢ per gallon for absorption gasoline, they would have to be, or some of them, would have to be reduced?

A That is right.

Q That follows?

A Or if the income of the pipeline department had been greater than that in that year than it actually was then those figures would also correspondingly have been reduced.

Q I do not know that I quite follow that.

Q THE CHAIRMAN: Because you say those figures were set out on that basis?

A That is the basis.

Q The percentages will still remain the same, would they not, Mr. Burns?

MR. NOLAN: No.

WITNESS: No, not if there was a different figure because the percentage of production would have been greater had the pipeline revenues been greater, the whole picture....

Q Would they not come up together pretty well?

A Not necessarily, no.

Q You might get, of course, through-put for the pipeline from other wells, but so far as your own organization is concerned if the out-put of your well went up the through-put of your pipeline would proportionately go up?

A That is correct.

Q Now, can you give us some, these statements, these crude item on Exhibit "87", or could you make them up for us, what your average selling price per gallon was for those three items, crude oil, crude naphtha and absorption gasoline?

A No, they couldn't be made up from any figures which I have here, so far as I know, no, there is nothing there that would indicate what the average selling price was unless, perhaps, just a moment, what was your question?

Q Would it be possible to give us the average selling price as translated in these figures?

A Yes, I can give you that.

Q I would be glad to get that just for the purposes of comparison?

A Very good, sir.

Q You realize we have the cost here now, approximately, and if we got the selling figures, if you could make that out for us it would be useful and if you did, Mr. Burns, I would be glad.

A I will do that, that would be just for the year 1937?

Q It would work out with this statement, if you can give it for the nine months of 1938, no, I think we have not got the Jersey statement for the year 1938?

MR. FRAWLEY: No.

WITNESS: I will be glad to do that.

Q MR. FRAWLEY: Mr. Burns, there are a couple of other matters I want to ask you about. On page 22 of Mr. Morrison's report, he has a statement of administrative and general expenses for the years 1934 to 1937 and for nine months in 1938, and he shows an item here of "Toronto Office Charge", which for that nine months' period was $3,837.43, and the only other time it appears in those years is in 1937 when there was only $9.15, now Mr. Maw did not know anything about that so I thought I should ask you to explain that?

A The first nine months of 1938?

Q Yes?

A Well, there was.....

MR. NOLAN: This is Mr. Morrison's report and here is the statement?

A With regard to the $9.15 which occurred in 1937, I have no knowledge of what that is at this time; with regard to the $3,837.48 shown for the first nine months to September, 1938, I believe that the major portion of that at least is a fee paid to an expert that came here to make an appraisal of the pipeline property and to report; he was here in May of the year 1938 but......

Q Mr. Hill?

A Yes.

Q Mr. Edgar Hill?

A Yes.

Q Mr. Burns, before you proceed, let me call your attention to page 20, just to see if you find it some place else, and it might help you, page 20?

A Yes.

Q "Professional fees and Expenses, $2,964.76"? I do not know

whether that will help you at all, what I am now directing your attention to is the item of $2964.76, and it is in addition to the $3,837.48 on page 23?

A Yes. I see on page 20 there is $2,964.76, well, I will inform myself on those charges.

Q All right, thank you very much. Now, one other thing, you told us that you had divided, as the accountant for the North West Company, you had up until now at least divided these five salary cheques which you spoke of on the labour ratio basis, would you be good enough to give me a definition of that labour ratio basis?

A No, I have already said to Mr. Justice MacGillivray that, or to the Commission, I should say, that it is, that I cannot recall on what labour ratio basis that was,

Q On what labour ratio basis that was?

A No, I cannot.

Q Now, you were telling the Chairman a moment ago, by virtue of the way in which the books of this company are kept, that it is quite impossible for you to know at any time whether the company, the pipeline department, was making a profit or suffering a loss, that is true, is it?

A I think I said it was impossible to accurately say what the operating expenses were or what the profits were. I did not say it was impossible to say whether it was making a profit or sustaining a loss.

Q I see, because the company did make a reduction in its pipeline rate within the last few years from 25¢ to 22½¢ and from 22½¢ to 17¢ and from 17¢ to 15¢?

A That is correct.

Q Now, what guided the company in coming to the conclusion that that rate could be reduced?

A I do not know.

Q You do not know?

A No.

Q There was a reduction in the pipeline loss, a reduction from 3% to 2%, and to 1%, can you say what guided the company in making those reductions?

A No. I suppose that in each case it was the greater volume of business at that time being handled.

Q Well, in other words, that the company felt that its profit and loss statement, if you might call it that, if they had had it before them, which you say they did not, of the pipeline department, would have justified a decrease in the rate from 25 to 22½ and similarly later on from 17, from 22½ to 17 and later to 15?

A I did not say they did not have the profit and loss statement before them.

Q Well, I gathered from you that there was no segregating of costs, which would enable you to know precisely what the costs of that department were?

A There was none made, that is correct.

Q Well, did you make one?

A They had a profit and loss statement, yes, here it is, it will give you an idea but it is not necessarily accurate.

Q What are you referring to when you said "here"?

A This.

Q You are referring to Exhibit "87"?

A "87(c)", and we have made other statements.

Q Then the Jersey statements had this further purpose that they were a guide to your company here in Calgary to enable it to come to a conclusion with respect to the sufficiency or otherwise of the pipeline rate?

A I cannot say as to that, but the fact is that the statement was prepared, I do not believe anyone, that I know of, anyone

who had anything to do with fixing the rate read it.

Q But you point to that, Mr. Burns, I gather you point to that when I suggest to you that there was not here any evidence this afternoon, no accurate segregation of the pipeline costs, and you now say "Well, they had, the officers of the company had statements, the Jersey statements, and they could tell from that what the company was doing", now, that seems to be a fair answer as to that, and that is your answer, is it?

A This statement was prepared, whether they used it or read it I cannot say.

Q I see. Your company could have done what Mr. Morrison did on page 7 of his report. I do not know whether you have had any opportunity to look at that, Mr. Burns, that is just a setting down of certain figures from the Jersey statements?

A I have not seen it previously.

Q It will only take you a minute to look at it, do you regard that as a proper interpretation by Mr. Morrison from the pipeline figures as they appear in the Jersey statements?

A Oh, I cannot say. There are several years, there are five years' figures here, I cannot say whether they are correct.

Q I see. Then, assume with me they are correct, that would enable your company, the officers of your company, to know whether or not they were, whether their rate as it existed from period to period, was sufficient to make them a reasonable profit or whether the continuation of the existing rate would have resulted in a too high profit, that is fair enough, is it not?

A I don't think so. I do not know whether they would consider this statement or not, it is prepared. I can see that, but I have no idea of the basis of it.

Q Assuming with me that is just the Jersey statement, that is just the ~~Jersey statement, I did not understand~~ that it was anything else, is it?

MR. MORRISON: No.

Q MR. FRAWLEY: Nothing at all, but taking the figures.

A There may be other figures outside of costs entering into the fixing of the pipeline rates.

Q Outside of costs, well, revenues, of course?

A Yes.

Q The rate of return and so on?

A Yes.

Q But I just want to know if you are able to say at all what the company had before it which enabled it to know with any degree of accuracy what the experience of the company was at the time that they reduced the rate; presumably they reduced the rate because they thought the existing rate was too high, or I will put it another way, to be as fair as I can, that the reduction in the rate was justified on the company's experience?

A I believe that is so.

Q Yes, well you say they had nothing but the Jersey statement, but they had these statements to go to?

A No, I didn't say they had nothing but the Jersey statement, I said this was one statement which was prepared; there are also the company's books.

Q Which you say do not in the way they are prepared, reflect the true cost as you answered the Chairman earlier in the afternoon. So I just wondered what they had before them when they reduced the price, what urged them to reduce the rate?

A I do not know.

Q That is all.

Q THE CHAIRMAN: Mr. Burns, you said that in May of 1938 you had an appraisal of the Pipe Lines made by Mr.Hill?

A That is correct.

Q Who is he?

A Vice-President of Ford, Bacon & Davis, Incorporated, a firm of consulting engineers in New York, and I believe in the City of Philadelphia. He is President of the National Refining Company of Cleveland, and he may have other positions.

Q You considered him a competent person to make an appraisal of the Pipe Line? I say you, of course, I refer to the Company of which you are director, and the one with which we are immediately concerned, the Royalite?

A We do.

Q You got such an appraisal from him?

A We did, yes.

Q Was it committed to writing?

A It was committed to writing.

Q You have it?

A No, I have not. I do not know that there is a copy here at the present time. However, he has prepared a later statement.

MR. NOLAN: My Lord, may I explain. Mr. Hill is in your Lordship's Court, before the Commission now. He has come here for the purpose of giving evidence in this case, and there is a report which will be handed to the Commission and which contains in it, to the best of his ability, his valuations of the Pipe Line system, and such comments as he cares to make. The main report was prepared for what we thought was going to be a Pipe Line hearing before the Utility Board, but the matter was removed for the moment from their jurisdiction and brought here. We thought it only right and proper we should bring someone to assist the Commission, and who better than the gentleman who had been here before. The report went back to be brought up to date, because there were many changes took place in the pipe line and its gathering system between the month of May, 1938, and the month of December, 1938, when this Hearing commenced. The report which will be presented, will be as nearly as may be up to date, the report by that same gentleman.

THE CHAIRMAN: Any questions, Mr. Nolan?

Q MR. NOLAN: There was only one point. The Chairman asked you, Mr. Burns, if it had never become necessary to make these allocations as between the Pipe Line and other departments, and if it were impossible to do so. You expressed the opinion it was impossible to do so. But, as a matter of fact, Mr. Burns, it was never necessary to do it heretofore was it?

A No.

Q Why wasn't it necessary?

A Not for the purposes of a Commission, of a Royal Commission, it was never necessary.

Q For the purpose of keeping the books of the Royalite Oil Company and arriving at the balance sheets for the year's operations, it was never necessary to divide the Pipe Line Department from the other departments of that Company?

A That is correct.

Q And so far as any duplication or triplication of salaries is concerned, as I understand you, a salary is paid to say Mr. "X" by the Imperial Oil Company and divided amongst these companies, which are subsidiary to the Imperial Oil?

A That is correct.

Q So that the Royalite would pay only its portion of that total salary?

A Only its portion.

Q Thank you.

MR. NOLAN: There was a question put to us, Sir, yesterday by, I believe, Mr. Commissioner Lipsett as to what was the Royalite's proportion of the Pipe Line adjustment for the year 1937 and the nine months ending September 30th, 1938. You will remember, Sir, there were these Pipe Line profits, and I think it was perhaps the Chairman who said "Well now, of course, the Royalite would be interested in that too, because the deduction was made from them. What was their proportion of that?" I have the statement before me. It is not made in any other than one single statement. Perhaps I might read it into the record, my Lord.

THE CHAIRMAN: Is someone verifying it later?

MR. NOLAN: No one has verified it. It has been handed to me.

THE CHAIRMAN: But is someone going to?

MR. NOLAN: Well I will see if Mr. Burns is familiar with it, and if he is I will put him back.. No, the accountant, who made it up, who is in the employ of the Company, is not here. Perhaps I had better withhold it and call him.

THE CHAIRMAN: So long as you are going to call a witness we will be glad to receive it now. You are asking to have marked a statement of something of which you have no personal knowledge, as I understamd it?

MR. NOLAN: None at all, Sir.

THE CHAIRMAN: Therefore, to be of weight, you must have some witness at some stage verify that?

MR. NOLAN: Unless my learned frield, Mr. Frawley will agree with me that this computation is correct.

THE CHAIRMAN: Oh, quite so.

MR. NOLAN: We will check it, if we may, Mr. Chairman, and put it in when it is more convenient.

THE CHAIRMAN: Very good.

....

KENNETH J. MORRISON, recalled:-

Q MR. FRAWLEY: Mr. Morrison, when we left off your evidence yesterday where had you arrived in going over your report?

A We were at Page 21 of the report. At Statement No. 21.

Q Yes. Now will you just continue. I do not know how far you had got. Oh yes, I think I know now. You were going over these items under the heading of Indirect Costs, these Indirect Costs being the portion of the Utilities and Service Units?

A That is correct.

Q Do you want to say anything more about those items before you get to an explanation of your percentage of 18.29067?

A None, other than this, Mr. Frawley, that I understand from Mr. Maw, that insofar as the total amount that is to be distributed for this period......

Q Being what?

A Being $112,968.27 representing the proportion of Utilities Expense and Service Units and $121,702.01 for proportion of Administration and General Expense, that we are practically in agreement.

Q You are practically in agreement?

MR. NOLAN: That is right, Mr. Morrison.

MR. FRAWLEY: In exact agreement?

NOLAN: With the exception of that rental of those tanks.

A That is not in here. That is Direct Expense.

Q Yes, but both items are reconciled in our respective statements with the exception of the Tank Rental in the Direct Expense.

A Then I can take it all items in the 1938 statement with the exception of the $14,000.00 for Storage Rental, insofar as the amount is concerned is in agreement with the Company's representatives?

MR. NOLAN: Yes.

Kenneth J. Morrison.

MR.HILL: Perhaps not in individual amounts, but it is in toto?

A I think that is the important thing.

THE CHAIRMAN: Let us get that down.

MR. NOLAN: That is a great step forward, because we can deal with the total?

A I shall refer to it definitely in totals.

THE CHAIRMAN: Let us see what our agreement is?

Q MR. FRAWLEY: Would you say what you and Price-Waterhouse Company have agreed upon, make a statement again for the record?

A With respect to the nine months ended 30th September 1938, the total figure of Direct Operating Expenses are shown on Statement No. 20 in our report, and totalling $128,401.42, together with the proportion of Utility Expenses and Service Units, totalling $112,968.27.

Q As shown on Page 21?

A As shown on Page 21 of my report, together with a proportion of the Administration and General Expenses, as shown on the same page, and totalling $121,702.01, are in agreement with the figures submitted by the Company in toto, excepting the item on Page 20 of my report amounting to $14,583.30, representing the storage for the five months, being the months of May to November inclusive, of 1938, of Storage Tanks at the Imperial Oil Refinery in East Calgary.

Q THE CHAIRMAN: Is that what we somtimes have spoken of as the rental?

A That is right. Rental of Storage tanks at the East Calgary refinery.

THE CHAIRMAN: And that is subscribed to?

MR. FRAWLEY: Yes.

Q Will you now explain how you arrived at the 18.29067% which we find on Page 21, as the percentage of $112,968.27 which you allocate to the Pipe Line Department of this Company as a cost?

A As a percentage.

Q Well, as a cost though?

A Yes.

Q As a cost, a partial cost of operating the Pipe Line.

A That percentage of 18.29067 is arrived at by a comparison of the payroll of the Pipe Line Department for outside labouring men, compared with the total payroll of the Company of outside labouring men.

Q Now that is a definition of it. It may serve a purpose if you illustrated that please, by a concrete example. You go to the payrolls of this Company. You examine all the payrolls of this Company and you find the number of men, the number of day labouring men employed on outside work by the whole of the Royalite Company, is that right?

A Yes. Now, I have the actual figures that we have used in connection with this particular calculation. The total volume of the Company in respect of outside day labour was $626,926.30 for the nine months to the 30th of September, 1938.

Q Yes.

A Of that amount the payroll of the drilling Department amounted to $145,538.89, and the Pipe Line Department

payroll amounted to $107,063.30.

Q Of this same kind of men?

A Yes, those are all comparing the same kind of men, outside day labour in Turner Valley. In order to make a fair comparison of the Pipe Line Department payroll and the Drilling Department payroll, it was necessary to reduce the amount of the Drilling payroll by 5-7. In other words, the men employed on drilling wells were receiving greater wages in the relationship of 7 to 5, than were the men of the Pipe Line Department.

Q What do you mean by that? Their wage scale was higher?

A Their wage scale is higher. So that in order to use money values we had to bring that down to the same comparison. That was done by reducing the payroll of the Drilling Department by $41,000.00, .

Q Bringing it down to the same comparison as if the same number of men were employed on both payrolls at the same rate.

A Not the same number of men, but the men who were employed were employed at the same rate. In other words, if we were going to use money values, we could not properly do it if one man on drilling wells was getting $20.00 a day, and a man who was walking on the Pipe Line was getting $10.00 a day. There would obviously, in money values, be the equivalent of two men on the Drilling Department to one man in the Pipe Line Department. So to overcome that inequality we reduced the payroll of the Drilling Department, so that it would properly compare with the payroll of the Pipe Line department. We deduct that amount of $41,582.54 from the total payroll, which was

Kenneth J. Morrison.

$626,926.30. That is the total payroll.

Q You have not listed all of the payrolls. You have only listed the Drilling Department and the Pipe Lines?

A I have only given you that figure of $626,000.00, and I have given you the Drilling payroll and the Pipe Line payroll, because there is no great disparity between the wages of other departments as compared to the Pipe Line department.

Q It was only in the Drilling Department you had to make this arbitrary adjustment?

A Yes. When you say arbitrary adjustment, it is quite fairly accurate, insofar as it is possible. We have reduced the value per man to the same basis, insofar as wages that they earn. That means that the total payroll now is reduced to an effective figure for the purpose of this calculation to $585,343.76, and of that amount the Pipe Line Department has $107,063.39 or 18.29067%, which percentage we them apply as being the amount in which - as the proportion in which all Indirect Costs will be distributed to the Pipe Line Department. A similar process was done for each year, 1934, 1935, 1936 and 1937. The same principle was employed in each and every case. Therefore, the same method will apply to each and every year as has been done for the nine months ending 30th September, 1938.

THE CHAIRMAN: Would you accomplish the same thing if you took the numbers of men?

A No sir, because of that inequality. Oh, the number of men?

Q Yes?

Kenneth Morrison.

A Yes, I think probably the same relationship would have existed. We did not check one with the other. It was more convenient to use the money values but we realized in order to do that we had to bring these all to an equal basis. I am of the opinion practically the same result would apply, had the number of men been used instead of the value.

Q In other words, does it work out like this, if there were 100 men employed by the Royalite Company on outside labour, on a day basis, and you found that 20 of those kind of men were employed wholly by the Pipe Line Department and 80 by the other Departments of the Company, then your conclusion would be on this basis that 20% of the Indirect Costs should be charged to the Pipe Line Department?

A That is correct.

Q MR. FRAWLEY: It is suggested that the men, it might make a difference if the men did not work the same length of time. You are assuming they worked 8 hours a day, all of them?

A That is, of course, where the money value was in a sense more accurate than endeavouring to take the individual men. We get a more accurate result from this method.

Q And you are satisfied with the fairness of the method you took, the money value basis, than to merely the number of men basis, after you made the adjustment between your Drilling Department and the other Department.

A Yes. Insofar as the principle is concerned, whether it is acceptable or not, I am not now questioning, but insofar

as the accuracy of the figures on that basis, the Company's representatives are in agreement with ourselves. As to percentage. I am not suggesting that they are in agreement with us on the principle, but they are in agreement if this principle is adopted that these percentages are correct.

Q Oh, that is of value. There is an agreement between you and the Company on that basis as well.

MR. NOLAN: If Mr. Morrison intends us to agree that if his basis be acceptable, his figures are right, then we say yes.

A That is all I am suggesting, Mr. Nolan. On that basis then, dealing with the Indirect Expenses which come under two main headings of a proportion of Utility Expenses and Service Units, and a proportion of Administration and General Expenses, for the period ending 30th September, 1938, the distribution is made on the basis of 18.29067%, and insofar as its proportion of Utility Expense and Service Units, it will amount to $20,662.65, and in respect of Administration and General Expenses it will amount to $22,260.11, or a total Indirect Expense of $42,922.76.

Q To be found on Page 21?

A To be found on Page 21, yes.

(At this Stage the Hearing was adjourned until 10.30 A.M. January 18th, 1939.).

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FRAWLEY 17

he Province of Alberta

IN THE MATTER OF THE PUBLIC
INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the
12th day of October, A.D. 1938, to inquire
into matters connected with Petroleum
and Petroleum Products

Bothright
Tank [illegible] 2364

Morning
line ton deductions 2313

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta JANUARY 18th, 1939

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WITNESSES:

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EXHIBITS

"94" -	Map showing storage tanks at Turner Valley end of Pipe Line, produced by the witness Coultis, to replace map Exhibit "78" formerly produced by Mr. Coultis.	2347.
"95" -	Statement of Turner Valley Production and Pipe Line Deliveries for the year 1938,	2354.

……

KENNETH MORRISON, having been recalled, examined by Mr. Frawley said:

Q Mr. Morrison, where were you in your report when we left off last night?

A I was dealing with the statement for the period ended 30th September, 1938, which is found on pages 19, 20 and 21 of my report, and I had left off at the total of the indirect operating expenses chargeable under our method to the pipeline department, totalling $42,922.76, which amount is found on Statement No. 21. I had pointed out that insofar as the total amount of the indirect expenses were concerned for that period that we were in agreement with Messrs. Price-Waterhouse and Company but that we were not in agreement insofar as the percentage which was used in distributing that amount.

Q Yes. Now does that complete your observations with respect to the statement of revenue and expenditure for the nine months ended 30th of September, 1938?

A Well we should continue to just show the exact result.

Q Well the result, all right then?

A I had referred to the figure $42,922.76 representing the total of indirect expenses distributed under our method to the pipeline department; that amount added to the direct expenses which total $128,401.42 and which, with the exception of the item of rental on the storage tanks in East Calgary amounting to $14,583.30, we are also in agreement with the company's representatives, the total of the direct and indirect expenses chargeable to the pipeline department for the nine months ended 30th September, 1938, total $171,324.18, leaving an operating profit before provision for depreciation, income taxes

and losses on sales or retirement of equipment amounting to $599,683.58. Now I might say, sir, there are similar statements prepared for the years 1934, 1935, 1936 and 1937.

Q Mr. Morrison, before you leave that would you give us a word of explanation on your statement that this is the operating profit, this six-hundred thousand dollars, five-hundred and ninety-nine thousand odd, before provision for depreciation, income taxes and losses on sales or retirement of equipment?

A Yes. Well the total revenue of the company, the pipeline department of the company for the period ending, the nine months ending 30th September, 1938, was $771,007.76 which we have already gone into.

Q Yes.

A We deduct from that the direct and indirect expenses amounting to $171,324,18 which leaves $599,683,58 representing the profit before certain other provisions have been made, those provisions being for income taxes, depreciation, income taxes and losses on sales or retirement of equipment.

Q Which might be called a gross profit?

A Well it is not a gross profit because there are other items which have been deducted from it.

Q It is the difference between the revenues and expenditures?

A And a certain portion of the expenditures, after all the expenditures, those are the direct and indirect expenditures, depreciation is also an expenditure.

Q Income taxes also?

A Yes.

Q It perhaps could be a bit clearer than it is, this is the operating profit before provision for those things which you have indicated has been made?

A That is it, and these items, depreciation, income taxes and losses will be dealt with in the next statement.

Q That is right. Now you say you have dealt yesterday and today fully and in detail with the revenue and expenditures for the nine months ended 30th September, 1938, which appear on pages 19, 20 and 21 of your report?

A That is correct.

Q Now you are saying you did make similar statements, identical as to form?

A As to form.

Q With respect to what other periods?

A To the years 1934, 1935, 1936 and 1937.

Q Now for the record in case you have not done it already, will you just say where those are to be found?

A Yes. The statement for the year 1934 is Nos. 10 and 11, and if it will clarify the record in any way I can give the corresponding figures for the periods that I have just mentioned.

THE CHAIRMAN: Yes, I think you should.

Q MR. FRAWLEY: Yes, just the same result figures.

A For the year 1934 the total direct costs amounted to $39,765.26; the proportion of indirect costs $10,890.91, making a total of $50,656.17; the total revenue for the pipeline department for that year amounted to $228,007.66, leaving a net profit, before provision for depreciation, income taxes and losses on sales, of $177,351.49, that is on page 11 of the report.

THE CHAIRMAN: That is your operating profit?

A The operating profit.

Q Appears on page 11?

A On page 11, for the year 1934.

Q MR. FRAWLEY: The figure corresponding to

$599,683.58 is what?

A $177,351.49. Now if it would merely simplify it to just give the comparative figures with the $599,683.58 of 1938, that could be very simply done. The figure for 1934 was the one I just quoted $177,351.49.

Q Yes.

A On page 13. The corresponding figure for the year 1935 is shown at $165,844.23.

Q Mr. Nolan asks, are those figures carried forward in any other statement?

A Oh yes. For the year 1936 the figure is found on page 15, on Schedule No. 15, $138,169.74 and for the year 1937, the figure is found on page 18, totalling $446,870.70. The principle in preparing these statements is exactly the same throughout, that is that the direct costs are as shown by the books with the elimination of the indirect charges made by the company; in respect of the indirect costs we have used the same basis in each year. The percentages of course are different and those percentages are actually shown on each statement.

Q Now would you mind running through those three or four years and showing what the percentage was so that we will have it at one place in the record, what the variation of the percentages are?

A For the year 1934 the percentage as shown on Statement No.11 is 7.94142%.

Q That is the figure of course which compares---

A With 18.29067%.

Q For the last part, for the nine months in 1938?

A That is correct. For the year 1934 the percentage is 4.25365%.

Q What page is that?

A The 1934, sir?

Q Yes.

A The 1934 is shown on page 11. 1935 is shown on page 13, and the percentage is 4.25365%; on page 15 is the figure for the year 1936 being 8.28807%; for the year 1937 the percentage is shown on page 18, 14.18656%, and for the year 1938, the nine months rather, the figure has already been given and is shown on page 21, 18.29067%.

Q Now otherwise, Mr. Morrison, you are allowing these statements of revenue and expenditures for the years 1934, 1935, 1936 and 1937 to speak for themselves in the report?

A Well the individual items in the statement are practically all of the same nature, the amounts naturally differ, but the headings which are used are consistent. There may be some slight variation throughout, that is to say the direct expenses are made up of the same kind of thing, the amounts naturally differ. The indirect expenses are also made up of the same kind of thing.

Q And the statements are of a uniform pattern?

A They are all classified in the same way, in the same way.

Q The same classification?

A That is what I mean.

Q You told us yesterday that you and the Price-Waterhouse people had agreed, at least, as to the figures in the statements for the first nine months of 1938, can you say the same with respect to all the other years which you have just listed?

A Well I just asked Mr. Taylor, just before the Sittings opened, and he I think agreed that in the main, he would prefer that---

MR. TAYLOR: May I speak?

THE CHAIRMAN: Yes.

MR. TAYLOR: There are two small differences in the books of the Royalite. There are a few small differences between us, all of which have been reconciled. So far as any effect on the final figures is concerned, they are completely negligible and I would be prepared to say that substantially we are in agreement.

There are one or two small differences of a few thousand dollars in those back years.

MR. FRAWLEY: I think it is well to have that understood, that there is that almost identity between the figures which Mr. Morrison has and the figures which Mr. Taylor has taken off himself.

Q MAJOR LIPSETT: On the asumption, Mr. Morrison, purely hypothetical, but on the assumption that the remaining three months of 1938 were approximately similar to the figures for the earlier nine months?

A Yes.

Q What would be the relative for that $599,683.58 which you bring out at the bottom of Page 21?

THE CHAIRMAN: I thought Counsel were going to decide and to agree on that.

MR. FRAWLEY: Yes, I was going to say that I understand we are in agreement.

MR. NOLAN: Yes, we are in agreement, my Lord.

MAJOR LIPSETT: Perhaps we could get that.

MR. FRAWLEY: The Commission is entitled to it.

THE CHAIRMAN: Therefore, Mr. Morrison, can make his calculation on the basis of the agreement rather than on the hypothetical basis.

MR. FRAWLEY: Yes.

WITNESS: Well I would have to, the only way, Mr. Commissioner, is that we would, we could assume just

Q using $600,000.00 as being the closest figure to this $599,000.00, that represents the operating profits before provision for depreciation, etc. will represent $66,666.00 per month and there are three months to go, therefore there would be approximately a further two-hundred thousand dollars to add on, making that figure eight-hundred thousand dollars, that is to say the six-hundred thousand dollars would represent 9/12ths, and 12/12ths would be one-quarter more.

THE CHAIRMAN: So that for the whole of the year---

MR. NOLAN: One-third more.

WITNESS: One-third more I should say, that is the figure I gave, two-hundred thousand.

Q THE CHAIRMAN: Two-hundred thousand more?

MAJOR LIPSETT: In other words, the three-quarters represents two-hundred thousand dollars each and the fourth quarter would represent another two-hundred thousand dollars?

A That is right. Of course that comparison can only be taken at that point. I think probably if we were to extend that further we might find an unfair comparison when we come to figuring income taxes. That is possible I think, it might work out but I would not want to say definitely off hand, but at this point it would be fair to say on the same basis the figure would be approximately $800,000.00.

Q MAJOR LIPSETT: Yes, these other adjustments would vary?

A Yes.

A If we so deal with the period ending the 30th of September, which, I take it, now is being regarded as the year 1938, for all practical purposes, then we can refer - we find now that the cost which is the thing that we are particularly interested in at the moment, the cost for Direct and Indirect Expenses is $171,324.18. If we would refer to the statement No. 2, the long statement No.2, the last column there is headed Nine Months to 30th September, 1938, and that is a summary of the revenue, without showing gery much detail, of that period, which you will notice corresponds exactly with the statement that we have just left, Statement No. 19. It shows the total revenue of the Company of $771,007.76.

Q MR. FRAWLEY: And that is in the extreme right hand side of that statement?

A Yes, and that is the same, on the right hand side of Statement No. 19. In this Statement No. 2 we have extended these revenues and expenditures into amounts per barrel, which was not done on Statements Nos. 19, 20 and 21. These were the details of how it was made up. We have added a further column at this point showing the revenue divided into so many cents per barrel.

Q Are you going over this, Mr. Morrison?

A Yes, I think we should probably go over this slowly. The first item is Oil Gathering and Trunk Lines Earnings, amounting to $687,313.45. Now that, it will be recalled, that is made up on Statement No. 19 by 4,562,702 barrels at rates of 17 cents, 15 cents, and also 25,826 barrels at 7½ cents. That works out

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at an average of 15.021 cents per barrel over all. That is to say the average rate received by the Company for transporting oil through their pipe lines, Gathering and Trunk, for that period, was 15,021 cents.

Q I think just a moment ago you said Statement 19, but you are dealing with Statement 20 I take it? That item appears on Statement 20?

A What figure?

Q $128,401.42?

A I am not dealing with that. That is expense. That is the expense per barrel.

Q Yes, the total Direct Operating Costs?

A No, I am dealing at the moment with the Revenue, the top portion of the statement.

Q I am sorry?

A The Earnings end of it now.

Q Yes?

A I had pointed out that the total of the Earnings was $687,313.45, or the total o Statements No. 19.

Q Yes?

A And working that out on the average rate per barrel received by the Company during that period was 15.021 cents. It will be realized that the rate in the main during 1938 was 15 cents per barrel. The rate was 17 cents per barrel until the 4th of January, I believe, the 4th or 5th of January, and then there is a further item which changes the average in that there were 25,826 barrels delivered to the Local Sales Station in Turner Valley at the rate of 7½ cents per barrel. That does not go over

the Trunk Line, it is in the Gathering Line. So that the average for the period is 15.021 cents per barrel.

Q THE CHAIRMAN: That is in the Trunk Lines?

A That is in the Trunk Lines and Gathering Lines. There is no segregation as between the charge for transportation between the Gathering and the Trunk Lines, Sir.

Q There is a 7½ cent rate down there?

A 7½ cent rate.

Q Have you taken that into account?

A Yes sir. That is really an inter-company charge. The Local Sales Station is a Company operation, and is apart from the Pipe Line Department. They suffer a charge of 7½ cents per barrel for transporting their oil to that station. That, of course, is an inter-Company transaction, in the books of the Company. But in the Pipe Line Department it is regarded as a Revenue of that Department.

Q Did not Mr. Davies get some gas......

MR. FRAWLEY: The Highwood Sarcee Company, that is a gas gathering and distributing system, as I understand it.

THE CHAIRMAN: Yes.

Q MAJOR LIPSETT: What is that local Sales Station, is it a service station?

A A service station, I understand.

Q Selling ordinary gasoline?

A Yes.

MR. FRAWLEY: No, it is selling plant product and separator naphtha to farmers. Not

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refined gasoline?

A No, not refined. Not further refined than going through the absorption plant.

Q Motor fuels, in any event?

A Yes.

Q And they have arrived at a charge between themselves of 7½ cents, as compared to the 15 cents which Imperial is charged when it is transported all the way to Calgary?

A That is correct. The other operations of that service station are not regarded as a Pipe Line transaction at all. That is to say whether it is operating at a profit or a loss is not reflected in any way in the Pipe Line Department, but they do suffer a charge of 7½ cents per barrel, which is a revenue of the Pipe Line Department.

Q THE CHAIRMAN: During that period of time the rate was 15 cents as I remember?

MR. FRAWLEY: Except for four days?

A Yes.

Q THE CHAIRMAN: Which does not materially affect it. All right. 15 cents. We are told that for some amounts, whatever the amounts may be, the rate was 7½ cents?

A The actual amount is 25,826 barrels, which is shown on Page 19 of your statement.

Q At 7½ cents?

A 7½ cents.

Q How do you get the Company receiving for all the barrels they had delivered more than 15 cents?

A Because there were more barrels at 17 cents than there were barrels at 7½ cents. In other words, the average works out at greater than 15 cents because of the barrellage in question.

Q MR. FRAWLEY: You have three figures to average?

A Yes, 7½ cents on a small barrellage. 17 cents was twice the barrellage practically.

Q And then 15 cents?

A The big big item, of course, is at 15 cents.

Q And you just get over 15 cents?

A Yes, it is very slightly over.

Q THE CHAIRMAN: Just how is that accomplished?

A There were 48,560 barrels at 17 cents

Q I cannot understand. From the 5th of January, 1938, to November 1938, it was 15 cents. There was some transported at 7½ cents. I do no see how you can get above the 15 cents. Does the four days during which it was 17 cents make that difference?

A Yes. It is very slightly over. We are dealing with cents. 15.021 cents, 2 mills. In addition to that revenue, however, there is the Pipe Line Adjustment which we have already gone into, $83,694.31. Now that is not a charge for transporting oil as I have already pointed out, but when we get to the total revenue of the Company on Page 2, $771,007.76, we divide that by the number of barrels which in this case is 4,575,615 transported, in order to arrive at the amount per barrel of revenue derived, and that amounts to 16.85 cents. I do not want any

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confusion as to the suggestion that the Company were getting 16.85 cents for transporting the oil. But that is the average revenue received per barrel. by the Pipe Line Department and including the Pipe Line Adjustment.

Q Take the case of where a Company decides to carry its own insurance?

A Yes sir.

Q And sets up a fund for that purpose?

A Yes.

Q It would not be revenue?

A No, that would be an expense of the Company.

Q That is if that money were put into a fund, a certain amount of money, in order to provide an Insurance Fund, the money that they would set aside would be an expense of that Company for all practical purposes?

A It is true that the money they have set aside would not be a revenue to the Company, but in that particular case the money that they have set aside would be an expense for costing purposes.

Q In this case they have not set up a fund. They themselves put that in their General Revenue?

A Well, there is hardly the same comparison in that illustration.

Q No, I suppose not. I do not think the example is a good one for the purposes of comparison. What I am getting at is this, supposing they said "Well, now, we must protect ourselves against Pipe Line breaks."

A Yes?

Q And that sort of thing?

A Yes.

Q And daily evaporation, and so they take from every person what they and their customers thought fair to cover that?

A Yes.

Q And they set up a fund to protect themselves, as a reserve?

A Yes.

Q Would you treat that as revenue or not by them?

A No. Seeing it had been so treated by the Company as a reserve, I would go then into the question of the adequacy or the necessity for that fund.

Q But they have not done that?

A No sir.

Q But they hold themselves ready to meet that contingency for which these monies would be used were they in a Reserve Fund?

A That is true.

Q Does that change the position?

A There is merit in that argument, but insofar as the losses that have been sustained, they have been charged to that adjustment account. So that in effect, any losses that are sustained - not in the future admittedly - but any losses that were actually sustained would be charged against this particular fund. During this period I inquired whether there were no losses at that point but I understand some losses have occurred in, I think, the month of December. It would appear that amount is due to be reduced by whatever loss there would be. Quite properly so. As to the

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future, of course, the Company are not setting aside in their books any amount to take care of future losses, and I can only assume that they feel that the deductions sharges made in the future will be sufficient for that purpose.

Q MR. COMMISSIONER LIPSETT: That is taking that 1% and 2%?

A The continuing fund of 2% and 1% yes.

Q 1% for crude and 2 for naphtha?

A Yes.

Q The Company takes that to provide for these losses?

A Taken out and added to provide for these losses.

Q THE CHAIRMAN: Have you any criticism to the amount taken to provide for these losses?

A There is no amount. It is all recorded as revenue. That is the net amount.

Q Then the 2% and 1%, are they taking too much?

A Well the result would show that the deductions of that percentage has resulted in a profit to date. Now if the Company were to sustain substantial losses, that might change the picture of course. I am looking at it as what has happened.

Q But you are treating it as revenue?

A The Company are treating it as revenue, I did not take the initiative in treating it as revenue.

Q What I am concerned with is how we should treat is ultimately?

A Yes, that is true.

Q On the principle that Companies must have a reserve or should have, a well operated company?

A Yes, but the other suggestion is that the continuing

deduction provides that reserve.

Q MR. COMMISSIONER.LIPSETT: You did give us a figure, I think, on this, and found that at the reduced rate the profit on that particular account was for the three months....

A Yes, I gave a figure $11,535.00 I think.

Q THE CHAIRMAN: Is it sound accounting of this rate - I know they are ahead of the game right now, to use a common expression,- but supposing that the pipe line broke and it cost them all of that $83,000.00 some odd dollars to straighten it out, to straighten out their mess?

A Yes sir.

Q What would we do then?

A I think probably what we ought to take to give you that information, Sir, would be the experience of the Company by way of actual losses through breaks. We have the experience.....

Q I mentioned breaks, but I suppose there are other things that occur or can happen to this system?

A All other things are taken care of in the statement we have submitted. That is evaporation and loss in the ordinary transporting, that has been taken care of here. I have made inquiries as to whether there was any loss.....

Q Supposing we sere striking a rate today, would you think it proper, if you had the job to do, do you think it proper to take into account that sum of $83,000.00, I mean for the specific purpose of protecting these losses of the character we have been discussing?

A I think after all the rate is based on costs. Now this is not a cost. This is the other side of the picture.For the purpose of setting the rate the cost would be the figure I would be most interested in. Now whether or not there should be any allowance in the cost for that? You see at the moment this does not affect the case. This is a reduction of revenue, and is not really reflected in the carrying rate at all at the present time.

Q An increase of revenue is it not?

A An increase of revenue, but over and above the carrying rate. Over and above the carrying rate. In other words, the 15 cents rate gives them the revenue quite apart......

Q You take this into reverue as revenue?

A Yes.

Q Haven't you got to make the rate high enough to deal with the losses on the other side of the picture?

A No.

Q You are treating this as money they earned apart from revenue?

A Yes. Not part of the rate. I think that is probably where the essential difference comes in. That rate should provide for first, for their ordinary operating costs, which would include depreciation, Income Tax, and all necessary costs. Depreciation, by the way, is synonymous with the amortization of their investments. In addition to that they would require a fair rate of return on their investments. If they received that then they would have a fair rate, to protect the pipe line. In that rate would be no allowance

whatsoever for losses.

Q Allowance for?

A For losses on pipe lines, because at the moment the experience is that they do not require any. The experience at the moment is that they do not require any. I am taking, of course, the period I have examined.

Q When you give them a rate, let us say we fix a certain profit?

A A certain rate of profit?

Q Yes?

A Yes sir.

Q And you give them a rate that will permit of them earning that profit, having regard to all usual operating costs?

A Yes.

Q And should we not in determining that rate have to take care of this, take care of breakages in their line and evaporation? Should we not have in contemplation in that rate then - if you are treating that as revenue - something that would permit of their, if their line does break, that they are paid for it?

A If I am to be guided by their experience they do not require anything in their costs for it.

Q MR. COMMISSIONER LIPSETT: Is there not more to it than that?

THE CHAIRMAN: Evaporation surely?

A That has been taken care of.

Q MR. COMMISSIONER LIPSETT: They get a rate and get one barrel out of every 100.

A Of crude oil. One barrel out of every 100.

Q In addition to the rate?

A In addition to the rate. That is as I specifically point out here. The 15.021 cents is for the rate and 1.83 cents for line losses.

Q And that one barrel out of every 100 on your figures has taken care of all breakages for the past three months and still given.....

A I am dealing with the nine months.

Q Well, the nine months, has taken care of all breakages and still gives them a profit of 1.83 cents per barrel or $83,500.00. And for the subsequent period when it is only one barrel out of every 100 they still get $11,000.00 in three months?

A 9,228 barrels or $11,535.00.

Q When they were getting the $83,000.00 over the nine months they were getting 2 barrels?

A 2% on crude and 3% on naphtha. That is correct.

THE CHAIRMAN: Well I must say, Mr. Frawley, it does appear as the experience of pipe line companies for ordinary insurance or for protection they have got to have, let us say, about a barrel our of evary 100, that is to provide protection. You treat that as revenue. I do not think it matters whether you do or you do not. But if you treat it as revenue you have to allow something in the rate that they get, if we take that away. It is a rate plus a barrel, as my associate has said?

A Yes.

Q If you take away the barrel from them and call it revenue, you have to increase your rate. Or else

you have to say it is quite unsound taking anything away.

Q MR. COMMISSIONER LIPSETT: I was just going to put, before you deal with that, I think perhaps there is a certain amount of misunderstanding in this way, Mr. Morrison, between us all. You are giving them the rate and you are giving them $85,000.00 which is included in the rate. But over and above that you have already given them all the losses?

A Yes, all of the losses. This is the net figure. In other words, let me put it this way, that the deductions made from the companies, the producing companies,- which by the way to the extent of some 20%, I think, include the Royalite Companies, but there was 88,277 barrels deducted for the insurance that the Chairman has referred to and they only required to use as insurance 24,248 barrels, or .52% in toto.

Q THE CHAIRMAN: I follow that. They had good luck that year, but after all we will ultimately in this particular phase of the case come down to the rate. I do not know that I am prepared to say that they will always have good luck.

A Is there not just probably this confusion that the rate for transporting the oil and the deductions for line Losses are two issues? After all there are really two issues. One is the charge for transporting oil, and the other is a separate thing of providing an amount for losses. Quite rightly so. But I do not think that they are related insofar

as being included in the rate, the transporting rate. I think there are two separate issues. That there should be a rate for transporting the oil and a percentage deducted for line losses. They may be complementary but they are not one and the same thing.

THE CHAIRMAN: I think they are quite different and I am wondering why you put it into their revenue. They get it from the producer?

MR. FRAWLEY: The Imperial Oil Company.

Q Is this what the Chairman means, that in your rate you should have an allowance for the payment to an insurance company for a proper policy of insurance?

A Yes.

Q And then if you do that there would be no more line loss deductions at all?

A Of course, that would be true.

Q I want to clear the thing up in my mind, you cannot have them both?

A No.

Q And this protection, the Chairman is calling it for the moment insurance, then if you have something in the rate or assuming the Pipe Line Company paid out every year to the "XYZ" Insurance Company, to protect the Company against these losses, then there would be no need for any line loss deduction at all?

A Correct. I am going to make this observation and probably it might have simplified the situation, if for the purposes of regarding the transporting end of this only that the pipe line adjustments might

have been eliminated. But after all we wanted to know what the total revenue of the Pipe Line Department was, and that is what the records disclose. Now there are two separate and distinct propositions in fixing a rate for the transporting of it. It is done on the basis of cost, and not on what revenue it has been deriving, because that revenue might have been too great or too little. You can only fix the rate on costs plus an allowance for amortization and a fair rate of return. Then when those things are arrived at I think you get the rate that should be charged. Now then we come to the question of line losses. That is an entirely separate issue.

Q At the moment you are simply on the revenue side of the Company's books and you find this as revenue?

A As revenue.

Q And nothing else?

A Nothing else. There is no other significance as to its relationship to the rate that might be fixed.

THE CHAIRMAN: In arriving at the profit you certainly got a peek at the revenue?

A Yes sir. You have a peak.

Q You have a peek at it as well as the cost?

A I thought that you meant including this you had a peak revenue.

Q No, you have regard to it. Do you think we should have regard to the profit this Company is making in fixing the rate?

A Well......

Q Or do you not?

A Well, if it were a utility, if this Company had been

a utility at all times, then I think the question is quite open as to whether or not this Commission should not know what the Company actually made from its inception, as a utility company. But being an ordinary company I did not regard that the Commission were interested in whether they made large profits or small profits, when we were going into the matter of what a fair rate would be. First, taking the cost as shown by the Company books, then someone will give us the necesaary rate for depreciation or amortization, and somebody else will suggest what a fair rate of return is. When these three factors are known, then that is the cost of transporting the oil. Now if the Commission are going to look back into what profits were made and how those profits were allocated - because after all you may have a lot of profits and none of those been allocated to amortization. Are you going to say "Well you ought to have amortized this over a certain period." Or you just made so much profit, whether excessive or otherwise. I think that opens a very large question which we will have to deal with in the matter of depreciation.

Q But this Pipe Line Department is not an utility?

(Go to Page 2324).

A Not as I understand it, it is an ordinary incorporated company and it is not a utility, so far as I know. I will leave that to the legal.

Q THE CHAIRMAN: That is the way you treated it?

A I approached it with some, one has to regard from the accounting point of view what would be done in a utility company at arriving at a proper cost. We cannot get away from that factor.

Q MR. FRAWLEY: Before we get into that, and that is a large question, and it might as well be discussed now as at any time, before we leave the line losses, I want to put a question to you and see what you think about it, the Royalite Oil Company goes to the Imperial Oil, which is its largest customer and it says "We want 15¢ to transport your oil from Turner Valley to Calgary", that is so?

A Yes.

Q And they says "We think 15¢ is enough to give us our cost and our amortization and our profit, anyway we have arrived at 15¢ and we want you to pay that"?

A Yes.

Q And then they say "There is something else, apart from that, we are running a business here which has losses and....."

THE CHAIRMAN: Always has the evaporation.

Q MR. FRAWLEY: Always has evaporation and sometimes has breakages when quantities rush out into the gutter?

A Yes.

Q "So we want something on top of the 15¢ and we are going to take this from you, because our experience tells us that we are going to need it." ?

A Yes.

Q I presume they would not want that in money from the company?

A No, it is the practice to deduct something.

Q They say 15¢ is enough?

A For transporting.

Q Yes, but "We want something else to guard against possible losses", is it quite impossible to say that that money or that allowance should be taken in trust from the persons who supply the oil and that at the end of every three months, six months, nine months, or twelve months, or whatever period they like, according to their experience, and say "Imperial Oil, we have taken so much, we have not needed any more than about 10% of that, we will give you back 90% of that money", and couldn't they say that to all, at the moment they only have three customers, but couldn't they say that to all of their customers, is there anything wrong in that?

A Yes, certainly there is. In the first place there is no trust, and secondly, I was wondering whether, if they had shown a loss, could they then come back to the company and say "You had better pay it"?

Q Yes, if they had not had enough, very true?

A But I do want to make this observation, that the pipeline loss deduction would be in effect whether there was a pipeline or not, that is if oil is being transported by truck there is a pipeline deduction, there is a deduction for losses, whether it comes over the pipeline or not, it is the practice of all companies.

Q THE CHAIRMAN: Mr. Morrison, what you really are doing, to get away from words, is, they are really saying "We will transport 100 barrels of oil for you"?

A Yes.

Q For 15¢, plus 1 barrel?

A No, sir, I do not think that is what they are doing because, as I say, you might have an entirely different company purchasing the oil and not going to transport it by pipeline at all, they would take it by truck, some other person would take it by truck, it would not come over this pipeline at all and yet the producing company would suffer a deduction of 1%.

Q But it would be the trucking people who would take it off?

A Yes, to provide for loss in transferring it from the well to the truck and from the truck back to another tank, quite apart from transporting it either by the truck or pipeline.

Q What you are really saying now is, 15¢ is not the rate for transporting it but that they are saying on account of the thing which we have to transport we are going to charge a little more?

A Yes.

Q We are going to have a barrel of oil?

MR. FRAWLEY: I think it is pertinent to call your lordship's attention to Exhibit "30". Exhibit "30" is the agreement between the producing company and the Royalite Company. We know now that only three people pay these rates. Now, the draft agreement, Exhibit "30", is between the Anglo-Canadian Oil Company, we will say, the vendor of the oil, the producer in the Valley, and the Royalite. It first of all provides that "The vendor hereby sells to the purchaser and the purchaser hereby purchases from the vendor, subject to what is hereinafter provided, all crude oil and-or naphtha produced from' blank,'from his property, (2) the vendor' that is the producing company, 'hereby covenants and agrees (a) to make delivery of the said crude oil and-or crude naphtha in the purchasers' pipeline at the vendor's tankage at or near the place of production", and

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to cause all the crude to be treated in its own tanks so that the production shall be free from water, and so on. Then the purchaser agrees to pay to the vendor for such crude oil and naphtha the current wholesale pipeline price for such products prevailing in Turner Valley at the time and place of production and to make payment for the same not later than the 20th day of each month. Undoubtedly, we can translate that, "The current wholesale pipeline price" to the the current posted field price?

THE CHAIRMAN: Yes.

MR. FRAWLEY: Now, (4), "The parties hereto mutally covenant and agree: (b) that from the quantities accepted by the purchaser after measurement as aforesaid 7%, and that has been changed to 2%, in the case of crude naphtha and 2%, which has been changed to 1%, in the case of crude oil, shall be deducted for evaporation and other losses, and the quantities remaining after such deduction shall be the quantities on which the purchase price is to be computed as set forth in paragraph 3 (a) hereof."

Now, that, I think, throws some light on it. It is not the pipeline department of the Royalite Oil Company that is getting, really so far as this contract is concerned, getting the 1% line loss deduction. It is the crude oil producing department which is getting the deduction. The pipeline seems to be satisfied with the 15¢. The Royalite Oil Company says to the seller of the crude "We will pay you $1.20 for your oil but we will deduct from every 100 barrels that we buy from you a barrel, we will only pay you for 99, although we buy from you and take from you 100."

THE CHAIRMAN: Your suggestion is the pipeline department gets no benefit from this barrel, whereas the pipeline department suffers all the loss if the line breaks, does it not?

MR. FRAWLEY: Well, the company does, I presume, the pipeline department.

THE CHAIRMAN: Well, we always have that confusion, speaking about three or four companies in one.

Q MR. FRAWLEY: Where do you find the revenue?

A Well, you see, Exhibit "29" of course, rather puts another interpretation, that it is agreed that the transporter, being the Royalite, will deduct 2% by volume.

Q And they are the transporter under that agreement?

A Under that agreement.

Q So it does not add much?

A The point is that it is the transactions of one company and when we deal with the pipeline department as against the crude oil department it is still the one company, for the purposes of their accounting they have put, the company has put it into the pipeline department, but now at the same time you may recall in the Jersey statement, Exhibit "87", it does not go into the pipeline department, it goes to the crude oil and the crude naphtha and so forth, but in the books of the company it is shown as pipeline revenue.

THE CHAIRMAN: Well, at the moment my difficulty is, it may not be important, I may be just wasting a lot of time to try and understand it, but it seems to me, treating this company just as a transporter of oil, the pipeline company, for the moment, that they should be given a rate which is a fair rate, - that is our job to recommend it at least, - and that if we are to be fair we must give them a rate

which will not only permit of the actual carriage to-day but should make some allowance for the misadventures which experience shows such a company is likely to meet with.

MR. FRAWLEY: Yes.

THE CHAIRMAN: Which would include evaporation and breaks to the line, and if it leads somewhere else, all right, but I think that has to be taken into account in fixing a rate.

MR. FRAWLEY: Well, I do not know how difficult it would be.

THE CHAIRMAN: You cannot charge it against them as something received without giving them some consideration because of what they may face to-morrow.

MR. FRAWLEY: Quite so.

THE CHAIRMAN: They are receiving it for that purpose.

MR. FRAWLEY: It seems to open up a wholly new ground, and I do not know to what extent Mr. Morrison cam now go back and make any useful submission. What your lordship is now saying I think leads back to what I said, give them something in the rate to buy an insurance policy or build up a reserve or something, they cannot have it both ways.

THE CHAIRMAN: No, but it cannot be put against them as something which increases their revenue, I do not know, Mr. Morrison seems to think it does not make any difference if they make five million dollars a year out of this line.

MR. FRAWLEY: That is something else.

THE CHAIRMAN: I think, perhaps, it would have some bearing.

MR. FRAWLEY: I am going to discuss that with Mr.

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Morrison, but I think with respect.......

Q MR. FRAWLEY: Do you regard that as a separate matter?

A I do. I am of the opinion that the pipeline losses is a distinct and separate matter from the rate for transporting.

Q His lordship has now called your attention, that you do not think the past profits of this company and past experience, is of any great moment and importance to this Commission?

A I would not put it on that basis. I do not know to what extent the Commission wish to enquire into the past profits. Taking it on the instructions of the programme laid down we were endeavouring to ascertain the cost.

Q Yes, well, I want to ask you some questions about that which will, perhaps, bring out what is in his lordship's mind and, perhaps, now is as good a time to get it as any, this company has made, do you know enough about the company's affairs over the past, since its inception, certainly during the years you examined, that they have made a considerable profit?

A The Royalite Oil Company Limited?

Q The pipeline department?

A The pipeline department, certainly, they have made a considerable profit.

Q Now, let us assume, and they have made as much profit as they have money invested in the plant, is the total of their profit, is the total of the difference between revenues and expenditures as much as the total of the amounts invested in the plant?

A I would not be prepared to say that because I have not gone back prior to the year 1934.

Q Have you totalled the total profits of the company for the

period you have, and have you compared that with the amount they have invested ?

THE CHAIRMAN: I am just looking at the programme, on page 2 of the programme, you certainly say "Profits or losses" there.

WITNESS: Oh, yes, I know that item is there, sir.

THE CHAIRMAN: I was wondering if I was a party to this programme without having any regard to profits.

MR. FRAWLEY: No, we will have to know something, I think, about the profits of the company. The use to which we might put that information may be a subject of some controversy.

THE CHAIRMAN: Yes, before the words "What is the fair and equitable rate,' what it should be, there is the clause, "profits or losses."

MR. FRAWLEY: Yes.

Q MR. FRAWLEY: Now, are you able to give me any information at all, make any comparison between the profits of the company and the money invested in the line?

A Well, now, shall we say the profits and losses of the company as shown by the books?

Q Oh, yes.

(Page 2332 follows.)

A Because you see the books do not disclose---

Q All right then, instead of meaning, yes I mean "no", apart from the allocated profits and the allocated amortization, in other words, apart from the profits they have taken and the amortization charges they have taken, can you tell us something about the difference between the expenditures and revenues on the one hand and the amount of capital invested on the other?

A Well immediately you depart from what the books show, then you have many varied answers as to what the profits are because it depends on what rate of depreciation you are going to suggest is a fair and proper rate. Now if we could merely assume certain things we can certainly get the amount of profit.

Q Well assuming 10% profit.

THE CHAIRMAN: I have done a lot of interrupting and I was just wondering and it is something for you to consider, as to whether or not in my bewilderment I am not getting the orderly presentation of Mr. Morrison's evidence made impossible. Perhaps we should have let it proceed to the very end and then see what he is going to say.

MR. FRAWLEY: Then see how much fault we can find with him?

THE CHAIRMAN: Yes.

Q MR. FRAWLEY: All right, Mr. Morrison, if you will proceed now to complete---

THE CHAIRMAN: You just start where you were, Mr. Morrison.

A Yes, we were dealing with the revenue of the pipeline department as shown by Statement No. 2. I pointed out that the total revenue, according to the books, was $771,007.76 for

the nine months ended 30th September and reducing that to the revenue per barrel works out at 16.850¢ per barrel. We then come down to the expenditure, with depreciation on the basis of 5 years from 1st January 1939, - now right at this point we probably have another difficulty, sir, in that we have prepared statements on various species of depreciation, from 5 to 30 years, and also on the basis of the depreciation as shown by the books.

Q Run those over, will you Mr. Morrison, putting the pages on the record?

A These statements which I refer to are contained on pages 2, 3, 4 and 5. Page 2 takes care of the revenues, which by the way is common to all different bases, it does not change. Then page 2 also includes the expenditure based on depreciation of five years from the 1st of January 1939 and ten years from the 1st of January 1939. Page No. 2, sir, this one ~~is~~ on the basis of five years and this one is on the basis of ten yeaars.

Q Two to a page?

A To a page, sir, and then page 4 deals with it on the basis, pardon me, I missed the third, No. 3 is on the basis of 15 years and 20 years. No. 4 on the bases of 25 and 30 years, and No. 5 on the basis of depreciation as shown by the books of the company. Now it will be appreciated that whatever figures I am going to give must be borne in mind by the basis which has been used for depreciation.

Q Yes.

A And I have no particular desire to suggest that we should take one basis or another. The revenue is common to all of them, as is the direct and indirect expenses. It will be noticed on page 2 that the total direct operating costs are $128,401.42, which works out at 2.806¢ per barrel and the

indirect expenses $42,922.76 or .938¢ per barrel, a total of $171,324.18, or 3.744¢ per barrel.

Now that figure of $171,324.18 was the figure that we left, that we spoke of on page No. 21. You may recall I pointed out that the total of those expenses on page 21 were $171,324.18, which were the expenses before arriving at the profit of $599,683.58. Now those expenses are common on all the different basis, whether it is 5 years or 30 years, those expenses do not change, nor do they change in the statement of the depreciation prepared by the company, being on page 5. Now then the thing which we have to decide now is, is there any particular statement, that we wish to take for the purpose of discussing the balance of these amounts?

Q Oh, I think you will just have to take a 5 and 10 year period and just show us the conclusion right in each case.

A Very good.

Q MAJOR LIPSETT: Are the figures given by the company on page 5, is that taking the 10% depreciation?

A That is taking the depreciation at approximately 10% per annum, yes.

Q THE CHAIRMAN: And what depreciation, what are you allowing?

A It depends on the period of time, sir. On the 5 year basis on the 5 years from the 1st of Jnauary 1939, that would be on an 18 year basis---

Q MR. FRAWLEY: Show a percentage of what?

A Well I have not worked them all out, it is about 4, you see 20 years is a 5% basis, it would be 5 or 6%. 5. somewhat percent, and then the next basis of 10 years would be on a basis of 23 years, which would be less than 5% and so on. We go up

to 30 years, that is 30 years from the 1st of January, would be on a basis of 43 years, and 40 years is 2½%. Now on the basis of 5 years we find that the total direct and indirect expenses amount to $171,324.18, or a cost per barrel in cents of 3.744¢ per barrel.

Now the depreciation on an investment or an amortization on the basis of 5 years from the 1st of January 1939, will represent a charge to the operation for the nine months of $104,222.00 or 2.278¢ per barrel, bringing up the total before income taxes, to $275,545.18, or 6.022¢ per barrel.

We then figure income taxes at the prevailing rate, which would amount to a charge of $108,997.50, or 2.382¢ per barrel.

There is a small item for loss of sales or retirement of equipment amounting to $621.92 or .013¢ per barrel, leaving the total cost, including income taxes, including all charges which we feel---

Q Just a moment, how do you arrive at that income tax figure?

A By taking the profit to the pipeline department on these bases and working it out at 22% which is the present rate, 15% for Dominion and 7% for Provincial, will give us a total cost of $385,164.60, or a total cost of 8.417¢ per barrel. Now that cost is short of one thing, to be proper, and that is the rate of return which ought to be allowed, that is not included. Apart from that, comparing that cost with the total revenue of the company shown above of $771,007.76, it will show a profit of $385,843.16, or a profit of 8.433¢ per barrel. Now then you will notice that I said the company received, not for transportation but received as revenue including the pipeline adjustment, 16.85¢ per barrel.

Q You do not mean the company, you mean this department?

A Yes, I am always speaking of the pipeline division of the company.

Q Yes.

A The cost of that service on the basis of depreciation for 5 years from the 1st of January 1939 was 8.417¢ per barrel, without including any amount for return of investment and it showed a profit of 8.433¢ per barrel. That profit of course would be reduced by whatever amount is allowed as a proper return on the investment.

Now on the investment at that date, the net investment was $897,448.07. On a depreciation basis of 5 years from the 1st of January 1939, would net to the company a return of 57.32%. Now it must be remembered that that net investment is arrived at by taking the total cost to the company less a depreciation accrued on the basis of 5 years from the 1st of January 1939, or on a basis of 18 years.

Q Yes, and that is why, going right now to the 10 year basis on the bottom of Page 2, you have a different total net investment?

A That is correct.

Q Now why again is that?

A It varies by the amount of accrued depreciation. The gross investment is the same always but the accrued depreciation varies according to the rate.

Q Yes, so when you come here---

A 30 years.

Q At the bottom of Page 4?

A Yes.

Q You find that that figure, total net investment --

A Is higher because the accrued depreciation is on a lesser rate.

Q Yes, that is it, now this works out, what is that, 57.32%?

A It represents what $385,843.16 compares with the net investment of $897,448.07.

Q Well now I call attention to it because you have said there was nothing in your cost figures for a rate of return on investment?

A That is true.

Q Because that would be quite impossible, that is such a variable that you would have to make out just 8 more series of statements running from, well you have on another page, running from 6½, from 6% to 10%?

A Yes, that is for another purpose altogether unless it is suggested, we are not suggesting in this statement what the rate of return should be. This is what it actually was.

Q Yes, so I say, I suggest that the Commissioners can look at what the rate of return actually was?

A Yes.

Q And they can have some idea what the comparison is between any rate which they may later---

A That is true.

Q Later decide upon?

A Yes.

Q And there is just another way of doing it, it would just mean---

A Well of course if we know what rate of return is going to be allowed we can then figure it.

Q Quite, but not knowing, and taking as you said then the figures you have taken are just a latitude which you have set up in your own mind?

A Yes, and merely for the purpose which I will explain when I come to that stage.

Q That is quite right, you could not possibly have been expected to work out a rate of return?

A Yes, and the difficulty is that the rate of return varies the income taxes, that is to say if you set a lesser charge per barrel the profits of the company will vary and therefore the income taxes payable will vary.

Q Now have you said everything you want to say about that, first?

A Well that is the set-up of the statement, as I pointed out before, the details of the direct and indirect operating expenses have been dealt with in the statements of 19 to 21, the details of it, Statements numbered 19 to 21.

Q Now subject, will you take others, will you go now to the 20 year statement just to show what it looks like, you can cover them all if you like, it is just a matter of saving time?

A I can go over each and every one.

Q You might perhaps.

A Just showing the comparison, so you cantake the total figures they probably will give you the same idea, the set-up is exactly the same.

Q Give me the total cost per barrel for each year period.

A Yes.

Q And the net profit.

A And the percentage.

Q Of return on investment.

A Yes, I think probably, that will be now for the year we have just closed, for the period, this is not years now, this is all the same period but it is on a different basis. For the 5 year basis the total cost in cents per barrel is 8.417¢;

the net profit for the year is 8.433¢; the net investment $897,448.07, giving a return on investment of 57.32%.

On the 10 year basis the cost would be $.739¢; the net profit is 9.111¢ the net investment is $1,25[illegible],957.67, giving a rate of return on investment of 54.18%.

On page 3, on the basis of 15 years from the 1st of January 1939, the cost is 7.460¢; the net profit is 9.390¢; the investment is $1,091,998.17 and a return of 52.46%.

On a 20 year basis, the cost is 7.341¢; the net profit 9.509¢; the investment $1,133,300.64 and the return 51.19%.

On page 4, on the basis of 25 years a cost of 7.238¢; net profit 9.612¢; the net investment $1,161,570.74 and the return 50.49%.

On the basis of 30 years the cost is 7.165¢; the net profit is 9.685¢; the investment $1,182,447.03 and the rate of return 49.97%.

And on the basis on page 5 of the report, on the basis shown by the books of the company for depreciation, the cost 7.929¢; the net profit 8.921¢; the net investment $965,637.97 and the return of 56.36%.

Q Mr. Morrison, how do you get that 56.36%, I really think you mentioned it before?

A Yes, it is the relationship of the net profit of $408,194.60 on the basis I have just finished with, compared to the net investment of $965,637.97.

(2340 here follows)

[illegible]

Q MR. FRAWLEY: It is a question, Mr. Morrison as to whether....

A I am just looking at that figure at the moment. I noticed one further back here as to the percentage. There is some question, I noticed on the returns down here. I just noticed one amount as to the accuracy of the calculation of the rate of return. I would be glad to have an opportunity of having that checked, because while I did not do it personally, I have taken all responsibility for the figures which appear here.

Q In the noon hour do that.

A Yes, I would like to have that opportunity.

Q Yes. Now what statement would appear to follow in logcal order after a discussion of those various rates of life?

A The next statement which would follow - but it has the same difficulty insofar as the percentage is concerned. I do not wish to give as being accurate a percentage on return......

Q It would perhaps be more satisfactory if you would be allowed to interrupt your evidence now, and check these?

A I certainly think it would. I do not wish to give the Commission a figure that is incorrect.

Q That is right. Then if we might have a very short adjournment I can go on with some other evidence that might take some little time.

A Yes, I would like to have an opportunity of going into that.

Q MR. COMMISSIONER LIPSETT: Mr. Morrison, I wanted

to get another set of figures from you. I do not know what the effect of them would be. You have in these years 1936, 1937 and 1938, you have taken three sets of figures as the capital investment, the final figure of capital investment being $897,448.00?

A Yes, that is the net capital investment on the basis of the depreciation on five years from the 1st of January. That figure will change, as you will notice, on each different basis.

Q I notice that the capital figure has gone up during the years 1936 to 1938, from $277,000.00 to $897,000.00.

A Yes.

Q Does that mean that the new pipe line was being constructed during that period?

A Well that is one of the answers. In the main, that would be one of the major items, the new six inch line.

Q Did they commence that in 1937 or 1936?

A It was commenced in 1937.

Q I would like you to give us a figure on those lines, taking the capital outlay during either these last two years or three years, and allowing some reasonable basis of profit on the investment - I think the maximum figure in your Page 1 is 10%. So take that figure for this purpose merely?

A Yes.

Q And give us a figure of how much of the capital expenditure in those two or three years has been amortized up to the end of 1938? Assuming for the moment that that should be taken into consideration in fixing the actual capital in the pipe line

at the end of 1938.

A Now just so I will understand the situation. Do you mean that for the purposes of this submission I would ignore the position as at, say the 31st of December, 1935, and prepare a capital structure commencing with the 1st of January 1936? That is to say all of the expenditures made by way of capital for the years from 1936 up to 1938, September 1938?

Q Yes, or to the 31st of December, 1938, if you can give us those figures approximately.

A If I can get their figures I will be glad to do it.

Q If not, then to the 30th of September. That is it would start on the 1st of January 1936, and take all the capital expenditures made since that period?

A Yes.

Q That is for pipe line only, I take it? It is the Pipe Line Department.

A You see we have this other complication, Sir, there are certain other assets, a portion of which are applicable because of the service rendered by those assets to the Pipe Line Department. You see the Electric Plant, for instance, supposing there were some large addition made to the Electric Plant - I do not know whether there was or not - or the Boiler Plant or the Fuel Gas Lines, or some of those other items, a portion of which belongs to the Pipe Line Department.

Q Well I would, without limiting your investigation, I would suggest that you take the capital items

that are represented in your present figures?

A Similar items.

Q Similar items?

A Yes, I see.

Q I just say frankly what I have in mind. It may be ridiculous or it may be sound, I do not know. But we have had evidence that the responsible officers of the Company were of the opinion that the life of this field was two or possibly three years'

A Yes sir.

Q Taking the position of a Company investing in this pipe line, it seems that they have on the basis of allowing 10% on the investment?

A Yes sir.

Q And they are getting back some or a considerable portion or all of that capital outlay in those three years?

A Yes sir. I see. I follow exactly what you have in mind.

Q I would like to have before us what the actual figures are, whatever the result may be.

A Yes sir, I understand. I will be glad to get that information. This will take a little time to get that.

Q I assumed that, and that is why I mention it now. Just so we have the figures if any discussion arises about it?

A Yes.

Q There was one other thing perhaps you can help us on, Mr. Nolan's Exhibit "42" gives us the rate since the inception?

A The Pipe Line rate, yes.

Q The pipe line rate, and I think that is set out in a somewhat different form in your Page 25?

A That is correct. I have a statement showing the rates without any barrellage figures.

Q I wonder if you could give us the picture of the revenue during those periods, and if you could work out either on Mr. Nolan's exhibit or on your own Page 25, what the daily revenue is over those periods.

A Yes sir, we can do that. The daily revenue from Pipe Line charges for the - how far back do you want to go?

Q Mr. Nolan's exhibit, and I think your Page 25 give exactly the same period. The entire period?

A Yes, that is the entire period.

Q Yes?

A And you want to go right back to the commencement?

Q I do not think it is a very long way. It is merely a matter of arithmetic?

A Yes. We will have to get the barrellage.

MR. FRAWLEY: The barrellage is there in Mr. Nolan's exhibit "42.

A That is the daily average.

Q MR. COMMISSIONER LIPSETT: And if we had the average daily revenue, the receipts?

A Yes. That is Exhibit "42" sir?

Q Yes? There is just one thing, perhaps you might investigate for us in that connection?

A Yes sir.

Q During the period from the 1st of May, 1929, to the 10th of February, 1931?

A May 1st, 1929?

Q Yes?

A To?

Q To the 10th of February, 1931.

A Yes.

Q There are two periods in Mr. Nolan's exhibit, Exhibit "42"?

A Yes sir.

Q And it looks as if the daily revenue during that period was substantially more than the preceding or the succeeding periods? I would be glad if you would look into that particular period and see if there was any special capital outlay that that extra daily revenue might possibly be related to in any way?

A Yes sir.

Q You will get all these in the notes, Mr. Morrison?

A Yes.

Q And if you would also look into whether there are any exceptional or apparently exceptional daily takings in any of the other periods, and if there is any special reason for them?

A Yes.

Q THE CHAIRMAN: You said you had to send for a witness, Mr. Frawley?

MR. FRAWLEY: No. I can do that within a few minutes.

THE CHAIRMAN: Do you have to send to town?

MR. FRAWLEY: No, just downstairs.

Q MR. COMMISSIONER LIPSETT: There is also another Exhibit "43" which Mr. Nolan put in?

A Yes.

S.G. Coultis

Q Giving the capital outlay?

A I am familiar with that exhibit.

THE CHAIRMAN: That is in rough for us to consider over the holidays?

A Yes.

Q MR. COMMISSIONER LIPSETT: I do not know whether it would be possible for you, or perhaps Mr. Nolan, to give us the approximate dates when that capital expenditure took place?

A Well, I think in the main, the Company's records will show that.

MR. NOLAN: The records will show it. It can be done.

THE CHAIRMAN: I do not think it is worth while calling another witness now.

MR. FRAWLEY: Mr. Coultis is here. He has that map that was asked for.

THE CHAIRMAN: All right.

....

S. G. COULTIS, recalled:-

THE CHAIRMAN: You are offering a map, Mr. Frawley?

A I am offering you a map that I asked your permission to prepare to replace this old map that is showing entirely too much equipment, and that would be confusing.

Q We should look at the map you now produce instead of Exhibit?

MR. FRAWLEY: Exhibit "78".

THE CHAIRMAN: Instead of Exhibit "78"?

Before you say anything more about it we will have this marked.

MAP IN QUESTION IS NOW MARKED EXHIBIT "94".

A All of the equipment including tanks, pipe lines and the number 1 Trunk Line Pumping Station all is property of the Pipe Line Division, and it is a much clearer map than the smaller one.

Q And is all of the property that belongs to the Pipe Line Division?

A Yes sir. For instance this battery of tanks, there are 11 tanks shown here.

MR. FRAWLEY: Marked on Exhibit "94"?

A Well there are 13, two of which are in dotted lines. That can be confused. Those tanks are not shown as they are not the property of the Pipe Line Division.

Q You have eliminated on map, Exhibit "94", everything that is not under your personal supervision as Superintendent of the Pipe Line Divisionn?

A I have, Sir.

Q And are the capacities of the tanks shown?

A Both the capacity of the tank and the size of the tank in height and diameter.

Q Mr. Coultis, Mr. Nolan has made the suggestion to me, which I am very glad to accept. Can you tell us something about the hazards of transporting oil through this particular pipe line, and generally too?

A Which I assume includes storage?

Q Haxards of storage?

A And transportation.

Q Well, evaporation and everything that you, as a Pipe Line Division, suffer as hazards you can tell us about. Not what your other departments suffer.

A Taking evaporation alone, we begin to suffer evaporation losses from the producers' tanks from the moment that we measure his oil until such time as that is pumped out and later until the latter gauge is taken, or the latter measurement in the bottom of the tank. Then there are losses continuing along the way until it arrives in the terminal tankage, for evaporation also takes place - it takes place in three different tanks, in the field. A good deal of it the producers' tanks. The field collecting tanks and the Division and main line tank farm. It also evaporates in the terminal tanks in Calgary. That is evaporation; you have line leakage and line breaks and losses, some of which are fairly serious, some very serious, and others not quite as bad, due to leakage around your pumps. There is your equipment, at all joints in the line if not carefully watched. We have another hazard and that is thieves. Pipe line tappers. They have tapped-several years ago they had tapped practically every gathering line I owned, and had gone out and tapped the old six inch line, or the loop line on the old four inch. They tapped it under a building not belonging to us, and instead of making a proper job they used red rubber packing, which dissolves, and I have no idea how much oil ran out in that farmer's field, and right under the building, fortunately in which there was no fire. After obtaining a conviction

of two different crowds of thieves that has somewhat let up. Our hazards on trunk lines from breakage is very serious from the fact on both lines we go to an altitude of practically 4300 feet. Jumping from 3960 feet at the trunk line station, and climbing to 4300 feet, and dropping through the valley of the North Fork a distance of about six miles, which is in the form of a depression with very high ranges of hills on both sides. In the event of a break in that area, those lines would immediately drain out from both sides. In the case of the new six inch line, should it break in that area, or on this side of the range, we might get as much as 10 miles drainage. That would amount to about 182 barrels per mile, and approximately 82 barrels per mile in the four inch pipe, and regardless of your valves or your safeguards that we put in there, particularly in the winter when the gazard is greatest, I do not think my men could travel fast enough and locate that leak and close the valves providing they were in a proper position on the line. In addition to that breakage you might break on a highway. I would not like to go into what would happen in that condition. Fire, both on the trunk lines in the event of a break and particularly at or near the tank locations is an ever present hazard both in winter and in summer from many causes, static, lightning, stray currents and tank leakage. Around each tank we take every precaution possible. We built a fire wall, that is equipped to the capacity of that tank full, but even at that that tank might

in case of fire, come over the fire wall. I believe those are the main points of hazard.

Q And that is a very helpful and a very clear explanation. What you are pointing out are the things that may, in your opinion, may very probably happen to your line as you go along operating.

A At any time. This is a particularly difficult country to operate pipe lines in because you have a great deal of earth movement in the Winter time and towards Spring.

Q The fact is you have been, perhaps, fortunate? You have had a pretty good experience over all from 1933 on in your actual losses?

A Yes sir, and I might say that our system at the present time is largely new.

Q Yes?

A And naturally in the strongest condition that it ever will be.

Q Yes. This might be a good time to call your attention to the fact that in 1933 your actual losses were 21,661 barrels; in 1934 25,759 barrels; in 1935 25,533 barrels; in 1936 27, 463 barrels; in 1937 24,613 barrels, and in 1938, the first nine months, 24,248 barrels. There seems to be a pretty consistent annual loss, pretty much the same all through the years, although your total through put has certainly gone up very materially?

A Is that the total loss, Sir, or does that refer just to the Trunk Lines?

Q These are the actual losses. I am reading, of course, from Page 26 of Mr. Morrison's report, Mr. Coultis,

and this is what he has listed under actual losses. I presume they are the total losses. I presume it is the difference between what you put into the line and what you delivered to your customer?

A Of course, in those days we did not have any gathering system to speak of.

Q But even taking 1938, it is 24,248, in the first nine months, and in 1933 it was 21,661. It has been running around 21, 25, 25, 27, 24 and 24. You see the percentage, of course, is interesting. In 1933 you did not deduct enough, not nearly enough. You only deducted 13,990, and you suffered an actual loss of 21,661, which incidentally was 3-1/3% of your actual through put, and then in 1934 you did not take enough. You had an actual loss of 25,759, and you only deducted 17,828 and incidentally that year your loss was 2-2/3%. In 1935 you were getting a little better, but you still had not deducted enough. Your deductions were 25,155 and your actual losses were 25,533, or a loss that year, your percentage was 2.85%.

MR. NOLAN: There must be an error in this mimeograph copy that is being used.

MR. FRALEY: The correct figures are 23,155 and 25,533. Then in 1936 you are still slightly short. In 1936 you deducted 26,500 barrels and you suffered an actual loss of 27,463, and your loss by the way, that year was 3.04%. Now we come to 1937, and the picture changes very considerably. In 1937 you made a deduction for line losses of 60,918 barrels and you only suffered

an actual loss of 24,613 barrels, and your percentage of loss, by the way, in 1937 was .98%, just about 1%. In 1938 that same thing continued. You made a deduction of 88,277 barrels, and your actual losses are only, for the nine months' period of course, are only 24,248, and by the way, you are about half of 1%, or .525% is your actual loss, and that is the percentage of throughput. In looking over this statement what do you think about it? Where your through put goes up so much it certainly makes your deductions rise - might I suggest at the moment - out of all proportion. Because you see what you have done. Your deductions are 60,000 barrels and your line losses constitutes the same - in fact they are even less in 1937 than in 1936, when you were only putting through so much less. That is an interesting comparison there, Mr. Coultis. In 1936 you made a deduction - well take your through put, your through put is 922,030 barrels, and your deductions were, or rather your actual losses were 27,463. That was a lighter product in 1936 than 1937, I presume?

A Yes.

Q And that may account for it. Therefore, I do not want to become argumentative about it, I just want to call your attention to these figures. Now let me put this to you frankly, as Superintendent of the Pipe Line Department don't you think your line losses deduction is getting far bigger than you need?

A Not at 1% Sir.

Q Not at 1%?

A Not considering the type of product we handle.

Q In dollars and cents, because that is what is important, in dollars and cents you have.....

THE CHAIRMAN: That is 1% on crude.

MR. FRAWLEY: 1% on crude, and 2% on naphtha?

A Yes.

Q THE CHAIRMAN: What does he say about the 2%?

A I think from past experience that we would be able to get by with 2%, assuming that we have no serious fires or serious breakes

Q MR. FRAWLEY: In 1937 what was your percentage of deduction? In 1937?

THE CHAIRMAN: Well gentlemen, you can think about it.

(At this stage the Hearing was adjourned until 2 P.M.)

....

(Go to Page 2354-).

2:00 P. M. Session.

MR. FRAWLEY: I want to offer as an Exhibit, Mr. Chairman, a statement called "Turner Valley Production and Pipeline Deliveries for the year 1938", I have shown it to my friend and we are in agreement as to its correctness.

MR. NOLAN: Yes, we say it is substantially correct.

(Statement of Turner Valley Production and Pipeline Deliveries for the year 1938 produced and marked Exhibit "95".)

MR. FRAWLEY: Now, I want to say this about it before I use it, looking only at the top part of it, that is the production, the figures for the months of January to November inclusive are actual. They are figures which are obtained from or are compiled from returns made by the producing companies themselves, that is both as to oil wells and gas wells. For the month of December these monthly returns of the producing companies are not yet to hand, but the Conservation Board tells me that this is a figure which is a very close estimate, it is an estimate prepared by their own field engineer, from daily reports from their own field engineers, and, as I say, it is chiefly for that purpose that I showed it to Mr. Nolan, chiefly for that month of December. We are in agreement that the total for the year 1938 in barrels, for crude oil was 6,025,048 barrels, or a daily average in barrels for 1938 of 16,507. Now, the pipeline deliveries to the Calgary refinery are actual, those are actual, there is no question of estimating there. These are returns from the pipeline company and we, therefore, may take the crude oil average, daily crude oil delivery of 15,248 and the total in barrels, includes absorption and separator naphtha, 16,403, as being accurate.

The total in barrels for production when you add the product of the gas wells is, the daily average, shows a daily average of 18,290 barrels. I will call Dr. Boatright.

....

DR. BYRON B. BOATRIGHT, having been recalled, examined by Mr. Frawley, said:

Q Dr. Boatright, you are still under oath?

A Yes.

Q Now, there are two or three matters that I want to discuss with you, you did, in estimating the life of the field, you used a figure, and for that matter all of the experts did, of average daily production for the year 1938 of 15,000 barrels?

A That is right, a day.

Q 15,000 barrels per day?

A Yes.

Q I think, first of all, we should have, you might tell us where you got the figure because I am anxious that the Board should know?

A That figure was obtained from Mr. Morrison who, in turn, had obtained it, I believe, from the records of the proceedings in Ottawa, wherein that figure was quoted.

Q Well, Mr. Morrison will tell us that, perhaps. Mr. Morrison now tells me he got it out of the records of the Royalite Oil Company?

A I did not know, of course, where he did get it.

Q The Royalite Oil Company?

A Yes.

Q But, in any event, whatever that figure was really in the records of the Royalite Oil Company you took it to be the

average daily production?

A That is correct.

Q From the field?

A That is correct.

Q Quite innocently and bona fidedly you took it and made your calculations on that basis?

A Yes.

Q And, perhaps, it would be a good place for me to say that I assume the major portion, perhaps all of the responsibility, because I should have checked with the Conservation Board where the figures were either available or could be available, and I should have observed that error long before. Now, you have, of course, at my request......

Q MAJOR LIPSETT: Is that figure comparable with the 16,507 or with the 18,290?

MR. FRAWLEY: No, it is comparable to the 16,507, is it not, of crude oil?

A I will have to get a copy.

Q You were taking it, in any event, whatever it was, in the records of the Turner Valley, of the Royalite Oil Company, you were taking it for your purposes as being what?

A As being 15,000 barrels per day, or at five and a half million barrels per year.

Q Of what?

A Of crude production.

Q In any event, that is what you were taking, and if it was not the correct figure, that the important thing is what you were using it for?

A And I was using that figure to determine the life of the field based upon my estimated reserves of 170,000 barrels of crude oil in the crude oil area of the Turner Valley field.

Q Yes?

A The figure of thirty-one years which I gave as being my estimate of the life of the field was based upon the assumption that the production from that field would average five and a half million barrels per year during that time; in other words, the thirty-one years was obtained by dividing my estimated total production by the 15,000 barrels per day or five and a half million barrels per year.

Q THE CHAIRMAN: You said 170,000 barrels of crude oil?

Q MR. FRAWLEY: 170,000,000 you should have said?

A 170,000,000, I am sorry.

Q Now, will you proceed to complete the difference which there will be in your estimate, using the figure Exhibit "95" for crude production?

A Yes, I might explain that in my original estimate I took the complete reserves from the field, that is gas, gasoline, gasoline naphtha and crude oil, and used some figures which included those reserves; in this estimate which I am to give you now only the crude oil reserves are included. In my original I estimated the crude oil reserves would amount to 170,000,000 barrels of oil;up to January 1st, 1938, there had been produced 2,702,976 barrels of crude oil only.

Q Where did you get that figure?

A That figure is taken from the records of the Government here in Alberta.

Q And were furnished to you?

A Were furnished to me by Mr. Beach and are shown by Exhibit "2", I believe it was.

Q Yes?

A That is the figure for the crude oil production up to January 1st, 1938, and does not include any naphtha or

gasoline.

MAJOR LIPSETT: Who is Mr. Beach?

MR. FRAWLEY: Mr. Beach is in charge of the Petroleum and Natural Gas Division of the Department of Lands and Mines here in Calgary. Well, in any event, he is a member of the staff of the Department of Lands and Mines in Calgary.

WITNESS: And his records show that the oil production only from the Turner Valley field up to January 1st, 1938, amounted to 2,702,976 barrels of crude oil. During the year 1938 there were produced from the wells in the Turner Valley field 6,025,048 barrels of oil, crude oil.

Q As shown in Exhibit "95", which we have just filed?

A Yes, making a total crude oil production from the field of 8,728,024 barrels.

Q Using Mr. Beach's figures for the period up to 1938 and the Exhibit "95" for the year 1938?

A That is correct. In my original estimate I estimated that the total oil reserves of the Turner Valley field amounted to 170,000,000 barrels; subtracting from that 170,000,000 barrels the production to date, or to January 1st, 1939, of 8,728,024 barrels, leaves a reserve of crude oil in the Turner Valley field as at January 1st, 1939, of 161,271,976 barrels; using the rate at which crude oil was produced during the year 1938 and amounting to 6,025,048 barrels, the life of the field as at January 1st, 1939, would amount to 26.8 or approximately 27 years.

Q Yes?

A Now, in my estimate for pipeline purposes wherein I gave 20 years, I made the statement, I believe, that realizing

that figures of the type which had to be used in arriving at any estimate on the life of the Turner Valley field, that those figures did not represent an accuracy of over 70% and in order to be conservative it was my opinion that the life of 20 years would be a reasonable assumption for pipeline purposes, at the time I made that statement that figure of 70% in my own mind referred to the figures used in arriving at the 170,000,000 barrels of oil and did not include a provision for inaccuracy in the assumed figure of five and a half million barrels of production. I assumed that that figure was approximately correct and used it as such.

Q Yes?

A That means then if I use the same reasoning that I used then I must reduce the estimate pipeline life to approximately 19 years instead of the 20 years which I gave you. Of course, that would be 70% of the 27 years approximately, which would give......

Q Which you have given us?

A About 18.9 years, using the 27 years figure.

Q So your 20 years becomes about 19 years?

A Under that reasoning it becomes 19 years.

Q All right. Now, Dr. Boatright, some question has been raised as to the probability or improbability of the Turner Valley reserves, which you and the other gentlemen estimated, being drilled up, in other words, that is a pertinent thing, you will agree, to this Commission, to know, to have some idea in any event as to what the probabilities are that this field should remain undrilled, undeveloped, or whether the probability is the other way,

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that the field will be developed, and what are your views as to that?

A I think that it is highly probable that the field will be drilled up. The well spacing in the field is one well to 40 acres and I believe that the field will conservatively produce at least 17,000 barrels per acre. That means then that that 40 acres per well it will produce in round figures, will produce 680,000 barrels of oil. That 680,000 barrels of oil is certainly sufficient to justify drilling and provide a reasonable security against probabilities of dry holes and things of that sort, and I know that in the United States that fields have been drilled and are being drilled at the present time with no more security than that given by drilling in the Turner Valley field. As far as other fields being developed in the Alberta Province influencing that question, I think there is no doubt that if a shallow field were developed and no additional demand was available, that it might result in slowing up the drilling. However, that is a problem of the future and is something that cannot be forecast. However, I do know that in the United States, that the development of shallow fields has not stopped the development of the deeper fields and in fact deeper fields are being developed at the present time in face of an over-supply of crude, which is much more severe than it is in this Province, and I see no reason to assume that the Turner Valley field will not be drilled up in the future at a reasonable rate.

Q While we are on that point, Dr. Boatright, I cannot resist the temptation of asking you what significance you attach to what we see in the newspaper this morning, that the

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Home-Millarville well was showing a bottom-hole pressure of 3,055 pounds?

A That simply bears out the prediction which was made, that original pressures in the Turner Valley field amount to something over 36 pounds to the 100 foot below an elevation of 4,000 feet above sea-level.

Q And is it a good sign that they are finding that bottom-hole pressure in the Home-Millarville well?

A Yes, it is.

Q Now, Dr. Boatright, have you in your experience as a Petroleum Engineer had something to do with pipelines?

A Yes.

Q THE CHAIRMAN: Before you branch off there, there is a matter which you might speak to, Dr. Boatright, from your experience, and it is this, we have been told by Mr. Davies, I think, it was, that any producer who is concerned only with producing crude oil has never made any money in Turner Valley. If so, what is the assurance that people will spend the money to drill wells and, therefore, provide oil to put through this pipe?

A Well I, of course, have no means of knowing on what Mr. Davies based that statement. However, I do not believe that that statement is correct in the sense that it means that they are losing money on every barrel of crude oil which is being produced every day in the Turner Valley field. In other words, at the price of $1.20 a barrel, under the conditions existing in the Turner Valley field, I certainly see no reason for a statement of that sort.

Q At that price they should?

A They should be making money, certainly. Now, I think the point that Mr. Davies had in mind when he was discussing that

was that in the long run and in putting up the cost of drilling the wells, that the producers could not see enough oil in sight to be assured that their money would be returned and that statement in turn was based, I believe, upon his estimate of 6800 barrels per acre, and he was correct in that respect; if there was only 6800 barrels per acre I believe that he made calculations showing that on the present development something over four million dollars would have to be lost by the Royalite Oil Company alone, but a statement such as that has no weight at all if as, I believe, the reserve is 17,000 barrels per acre. Does that answer your question?

THE CHAIRMAN: Yes.

(page 2363 follows.)

Q With 17,000 barrels an acre you state a producer should make a good profit?

A Certainly.

Q And would lead to capital coming in and people ready to produce?

A Yes.

Q There are always people ready to enter a field where a good profit is available?

A Yes. In other words, I believe the reserves of the Turner Valley field are sufficient to return the invested capital and the necessary development and the production to give a fair rate of return on the investment, an attractive rate of return on the investment.

Q MR. FRAWLEY: Is it of any significance that in addition to the answer you have just given to the Chairman, that in the case of an integrated company there is a further inducement to continue drilling?

A Well, of course, that will certainly affect the operations because of the fact that an integrated company has other sources of profit, pipe line, refining and marketing profit. That naturally adds to the attractiveness of investing in a field of that type. Added to that, in that respect, is the fact that they are continuing to drill, acquiring acreage and holding acreage in this field.

Q Which means this,-while I do not want to subscribe to the theory, that gradually by one means or another the Royalite Company is assuming control of Turner

Valley - still the fact is, I take it, that the Royalite Company, as an integrated company, would be the last to leave drilling among all the producing companies?

A I believe that is correct.

Q What has been your experience, just for the purposes of the record - you have had some experience over a period of years in connection with the operations of a pipe line?

A Since about 1926. That experience includes actual design, the operation of pipe lines of various types, and teaching the subject of pipe lines as a portion of my duties at the Colorado School of Mines.

Q Now you have heard the evidence in this case with respect to the storage which the Royalite Company is renting from the Imperial Company in the Refinery yard at East Calgary. You have heard that evidence?

A Yes sir.

Q You are aware that Mr. Morrison has eliminated a charge appearing in the 1938 accounts of some $14,000.00. He said he did that in any event on his own responsibility as an accountant, but he there was guided to some extent, or at least had his views confirmed by you, that is true is it?

A That is true.

Q You do agree then with the elimination of this charge from the 1938 accounts of the Royalite Oil Company?

A I do.

Q Why do you say that?

A I say that for several reasons. In the first place it is by no means the uniform practice among pipe line companies to furnish storage at refineries. I know of numerous instances where such storage is not furnished by the pipe line company. As a general rule pipe lines are interested in maintaining the very minimum amount of storage which will suit their individual requirements. Furthermore, I advised Mr. Morrison, that I did not think this charge was proper because of the fact that it is common for refining companies to furnish, at the time they are built, approximately sixty days' storage. That is a pretty general rule. It is borne out here particularly by the Imperial Oil Company Refinery and the projected refinery of the British American Oil Company contemplates a 240,000 barrels storage for a four and a half thousand barrels a day refinery. The storage facilities in the Imperial Refinery amounts to something like 320,000 barrels, which is slightly under the sixty day storage supply that most refineries provide, with the exception of the Lion Refinery. Mr. Plotkins' oil is delivered by the Imperial or by the Royalite. The oil is delivered by the Royalite to the Imperial Refinery for the British American. Certainly in those two cases I can see no justification for a charge for storage. Further, as far as Plotkins' Refinery was concerned, he is charged 6 cents for delivery to his refinery. I advised Mr. Morrison I did not think a charge for tanks was proper as the pipe line is being operated at the present time.

Q Now, Dr. Boatright, if the Commission should be of another mind and felt that this company should be allowed some terminal storage at Calgary, what, in your opinion, would be a reasonable amount for them to maintain, having in mind the natube of their operations, as you know them?

A I can see no reason for terminal storage in excess of that in the field itself. In other words, about 118,000 to 120,000 barrels.

Q Have you an opinion as to the method which the Commission may use to arrive at what annual charge should be allowed to the Royalite Company to take care of storage, of terminal storage at the Calgary end on 118,000 barrels?

A I think in the event it was decided the Company was entitled to terminal storage, I have suggested I think that the proper charge would be based upon the expected life of the field. A straight line of depreciation based upon the expected life of the pipe line plus reasonable operating charges necessary for heating and taking care of that tankage.

Q And would it be proper then to regard that storage having been constructed, as a proper addition to the rate base, and the cost of carrying it to be obtained out of the rate to be fixed on the rate base?

A Yes.

Q That is how it should be handled?

A Yes, that would be my suggestion.

Q THE CHAIRMAN: What would such storage

cost?

Q MR. FRAWLEY: Can you give us some figures?

A I believe Mr. Morrison has shown some figures in his report on the cost of the tankage which is already installed in the field. Of course, that tankage cost would depend on the size of the tanks or the conditions surrounding their construction. However, I believe a figure of 7½ cents per barrel is the average cost of field storage. Using that same figure then on 110,000 barrels, it would involve an investment of about somewhere in the neighbourhood of $80,000.00.

Q MR. FRAWLEY: And the term of that investment, after having arrived at it, would follow along the lines you have just indicated?

A That is correct.

Q Amortized, and rate of return and so on?

A Amortized at the rate that your pipe line was amortized at, and providing a reasonable operating expense for heating and operating the tanks.

Q I had another note, as to whether or not it is in accordance with ordinary pipe line practice to include in the carrying rate a charge for gathering, without making a particular charge or special charge for gathering?

A It is done both ways. Some companies make a gathering charge, which is separate and distinct from the main line charge. Other companies make a main line charge which, of necessity, includes the gathering charge, the gathering charge of course being an appreciable portion of the total charge in small lines, that is, in short lines.

Q In this system Mr. Coultis runs a line out a long distance to some wells and a very short distance to other wells. So that it looks as though, and the fact apparently is, that these charges are all pooled, that is the man close in pays the same ptice as the man further out?

A That is correct. Of course that might look somewhat unfair in certain instances, but it certainly would not be practical in my estimation to attempt a division of the gathering charges on the basis of the length of the line to the gathering pump station. It would not be feasible to put in a separate gathering rate for each individual well or lease. I may also say in that connection, so far as I know there has never been any gathering rate devised utilizing the principle of separate rates for each individual well or lease.

Q We had some discussion on that, and I want to get the benefit of your advice on all these matters that have been troubling us. We were talking at considerable length this morning about line losses. The question arose as to whether the benefits which come to a Company - if they are benefits, and when they are benefits - should properly be taken by the Pipe Line Department of this Multi-Department Company, or taken by the Crude Oil Purchasing Department, which is also one of the departments of the Company. Have you any views about that?

A Yes. The practice is common in the United States that the Pipe Line Company itself takes that so-called line loss. That line loss is designed to take care of

necessary transportation losses, and is commonly set up as separate and distinct charge. The line loss rate commonly used in the States runs between 1 and 3%. The most common rate in use at the present time, I believe, is 1%. And that figure, that deduction from the producers' crude volume is made to take care of the necessary losses in the transmittal of oil and in the storage of the oil in the necessary tanks, and equipment. The charge is not unusual. In fact, it is universally made.

Q If a Company in one of the Texas fields has - well the Pipe Line Company is separate is it? Does it do anything more than carry the oil?

A As a general rule the pipe line is not a purchaser, is not a crude oil purchaser, although in the conduct of the pipe line business it may act for someone else and purchase crude at one end and transmit it at the other. Ordinarily the pipe line company is separate and distinct from the so-called crude oil purchaser. There is a definite reason for that. A pipe line in the United States is a common carrier, and tries to hold their tankage at a minimum to avoid interest, etc. The purchase and storage of oil either for price raises or for the market demand is usually carried on by the so-called purchasing companies, which purchase the crude for storage and re-sell it at some later date.

Q If a pipe line company is a carrier and only a carrier, then by making a deduction they are virtually adding to the pipe line rate per barrel, are they not?

A Yes, in effect that is what happens.

Q If I have oil which is merely being carried by the pipe line company you have in mind, and they charge me 10 cents a barrel to bring it in, and they charge me something else, I am paying the 10 cents plus the something more per barrel?

A That is correct.

Q MR. COMMISSIONER LIPSETT: Have you considered any question of the distances at all, Mr. Boatright? You mentioned pipe line losses in the States, and certain percentages. Are the distances there comparable to the distance from the Turner Valley field to Calgary?

A I believe the average pipe line in the United States is longer than this line. The distance will have some effect, but not, however, a great deal. The figure of 1% which I gave, is of course an average figure, and incidentally provides some insurance for the company in the event of a big line break occurring, and enormous losses, or say a fire occurs in their tank batteries, and a lot of oil is burned up. It forms a sort of insurance in addition to taking care of the losses that occur in the necessary handling of the oil. The line losses which occur will not necessarily be in direct proportion to the length of the line. In fact, the majority of loss is incurred in storage and in pumping rather than the actual physical transportation through the pipe line. Of course, there is a slight loss due to the longer length of line. But that is not the principle source of loss. It is of interest

in that connection also to state that the line losses in a given length of line will usually run pretty consistently regardless of the amount of oil that is shipped through the line. In other words, there is a certain line loss inherent in a particular line, due to the peculiar circumstances under which the line is operated. I believe an anlysis of Mr. Morrison's figures will show that the line losses ordinarily ran between 20,000 and 30,000 barrels, regardless of the amount of oil that was being taken.

Q MR. FRAWLEY: You are now referring to the figures on page 26 of Mr. Morrison's report, which I was going over with Mr. Coultis this morning, and which shows, starting with 1933 and running to 1937, it runs from 21,661 barrels, which is the lowest actual loss in 1933, to as high as, in 1936, 27,463 barrels, and a percentage running from - percentage of losses of 3-1/3% in 1933 to 2-2/3% in 1934, 2.85% in 1935, 3.4% in 1936 and .98% in 1937, and .525% in 1938. What does that mean to you, Dr. Boatright? that in the year 1938 for instances, their actual experience is a line loss of one-half of 1% , on their charge of 1%?

A That is correct.

Q Now have you any comments to make about that?

A That is a figure which, of course, is going to fluctuate from year to year, depending upon the amount of storage that is necessary and the various conditions under which the pipe line must operate. So far as I know no pipe line is allowed less than 1% loss in the United States. That figure of .52,

the loss which actually occurred, as compared with the 1% loss charge during the first nine months of 1938, shows that a profit was made because of line loss deductions. That line loss percentage, however, is a function of the company.

Q I think, perhaps, I want you to be sure your figures are quite right. The deduction made was 1% on the crude oil, from the 1st of September, but was 2%,on the crude from the 1st of January to the 1st of September. That is what you were aware of?

A Yes, I knew that.

Q It was 2% during most of the year 1938?

A Yes, but I did not make any statement on that.

Q The experience for the first nine months was one-half of 1%?

A That is correct. You will notice throughout that while the line loss remains fairly constant, the amount of oil that was shipped through the line changed between rather wide limits. When a small amount of oil was being pumped through the line the line losses were much larger. That is as the volume of oil sent through the line increased the line losses correspondingly decreased because of the fact the line loss is a more or less constant figure disregarding things like fires and bad line breaks and something like that, which of course, is subject to the whims of nature.

Q This is an essential procedure adopted by the pipe line company to protect itself against loss is it not?

A That is right.

Q They do not desire presumably to make any money on it?

A It is not designed as a revenue producing thing.

Q It should not be. The ideal thing would be that they should only charge this for the year, if they were very accurate in their calculations, that would be the only charge, one-half of 1% for 1938?

A Yes.

Q And they would be only charging 1% in 1937?

A That is right?

Q Because that was their experience?

A Yes.

Q It is fair to them to say they do not want to make money out of this pipe line adjustment account do they?

A That is not the intention of the account. It is simply to provide for necessary losses which occur in the transportation of the oil, and to build up a fund to take care of all contingencies which may arise by virtue of the dangerous substance which they are handling.

Q But they have been, and I do not say it in any unkindly way, they have been making a good deal of money in the last couple of years out of their pipe line adjustment account?

A I believe Mr. Morrison showed the figures, yes sir.

Q That essentially in the last analysis comes out of the producer at the well?

A That is correct.

Q And I am wondering, if it is only protection that they desire, is there anything quite wrong about

requiring that they should protect themselves against loss like any other industrial enterprise, endeavouring to protect itself against hazards of business by going to people whose business it is to take those risks?

A Well it is possible that they might do it in that way, but there is this difficulty that would arise in the event they tried to do any such thing. It is difficult to estimate exactly what the pipe line is going to pump through the line in any given year. It involves an estimation of temperatures throughout the year, because the major portion of the line losses occur in tankage, and other things which are necessarily subject to weather conditions and furthermore the rate for insurance of that type would be pretty high.

Q They could build up their own funds. When I say insurance, they could perhaps build up their own fund?

A In effect, I believe that is what they did in this year for instance. They built up a fund, the primary object of which is to furnish them the type of insurance we are talking about. It simply means they are investing that in insurance in their own hands.

Q Then perhaps I was not putting it correctly. Then the question arises of whether or not the total accumulated fund in this pipe line adjustment account is too much to reasonably take care of their probable losses? That is another way of putting it, I presume? I do not know that Mr. Morrison has added them all up.

A That would involve an analysis of the figures themselves. What is the number of that chart?

Q Page 26. On Page 8 of his report Dr.Boatright, you find that since the year 1933 - have you Page 8 of the report itself?

A I have here the exhibit.

Q That shows that from the year 1933 to the end of 1938 we have about $114,000.00 . Up to the end of September 1938, it was $103,000.00 and there was an additional $11,000.00 odd for the last three months. So that you have about $114,000.00 or about $115,000.00 there. That is the accumulation. That is the amount in this insurance reserve you might call it?

A Yes. And that would amount to somewhere about 8 to 10% of the total investment in the Pipe Line Account as shown here, I would not say that is excessive for insurance purposes. It seems to me that it is ample, however.

THE CHAIRMAN: What does that mean, elaborate that will you?

Q MR. FRAWLEY: You had better deal more fully with that, Dr. Boatright. You see we do not know. We have a total of $115,000.00 in this fund, looking at it one way?

A Yes.

Q And we know what the experience has been to date. We could easily take Mr. Morrison's Exhibit "26" and add up in dollars the total of those losses?

A That is right.

Q You have never calculated that, Mr. Morrison, have you?

You have the actual loss in barrels, but have you got it in dollars in Exhibit "26"?

MR. MORRISON: The actual losses are on Page 8 of my report. A net of $46,000.00.

Q MR. FRAWLEY: The way I am thinking about it now, we know what the actual losses were in barrels over that period?

A That is correct.

Q And we compare that to the $115,000.00. Now in that event how would it compare?

(Go to Page 2377)

A I was not, when I made that statement I was not thinking of it from the standpoint of the possible pipeline loss occurring through just transportation lines, I was thinking of something such as a fire or something of that sort which might burn up their complete tank farm, amounting to about 127,000 barrels.

Q Something which has not happened now?

A Yes.

Q But which might happen tomorrow?

A Yes.

Q There, I do not know, you do not know and I do not know, is that something which might be covered by fire insurance?

A It might be.

Q Couldn't they get a policy against this fire, tempests and floods and so on?

A I imagine they could. I am not an expert on insurance.

Q That has not been looked into and it may not serve any purpose to speculate about it. I am struck, frankly I am, I am quite in the dark about it, why a company, when it does not start out to make any money in an enterprise of this kind, does not want to make any money in it, ends up with a considerable number of thousands of dollars every year, there is something strange about that, unless I have got quite a wrong opinion of it?

A It seems to me that in the case of this particular company under consideration that that was one of the sources of profit for that company in the operation of a commercial pipeline. It is a part and parcel of the rate, the total rate which it was charging the producer for transporting the crude oil and if the company is made a public carrier, it seems to me that that is a necessary part of the consideration for a rate base.

Q As far as the producer at the well is concerned he may just as well say to himself that if the company delivers more to the Imperial Oil than it buys from the Brown Company, we will say, if that is the fact in any particular month or day or week, then the Brown Company might just as well say to itself "we have paid fifteen something pipeline rate"?

A That is in fact what happens, yes.

Q THE CHAIRMAN: What is your experience with other pipeline companies, do they not always deduct something for evaporation and contingencies?

A Yes they do and 1% is the lowest that is charged for that purpose that I know of.

Q Yes.

A The rate varies from 1 to a maximum of 3%, at least 3% is the maximum of which I have personally had any knowledge, the lowest rate base being 1 or 2%, it is not uncommon, it is the universal practice I should say so far as pipelines in the United States are concerned. The only point I was making in connection with the discussion was this that it is, if the charge is more than necessary to take care of the actual line losses then it does become an income producing thing, that is the only point.

Q Yes, which might be true this year and quite wrong the next year?

A Absolutely that is correct.

Q There might be a distinct loss?

A Absolute, that is correct, depending primarily upon the amount of oil which is shipped.

Q Yes, and acts of God and lightning?

A Yes, certainly.

Q So if you treat it as part of the rate then the pipeline company takes its risk, it is its own insurer?

A That is right.

Q And is the hazard great?

A Yes.

Q Would it be hazardous insurance?

A It is hazardous insurance.

Q Calling for a high premium or not, because of the high risk?

A Yes, it is higher, it is much more hazardous than the normal commercial undertaking, considerably. The material which is handled is highly explosive, very volatile, subject to fire and of course lines are subject to corrosion, corroding out and things of that kind. The pipeline business is much more hazardous than the average business undertaking. I might say that the line loss deduction so far as I know is never included as a portion of the rate in the United States.

Q Never included as a portion of the rate?

A No, that is it is not included in the rate base. The rate base as a general rule includes a possible gathering charge if that is made and then the line charge and then there is provision made for a deduction of 1, 2 or 3%, when the pipeline takes the oil from the producer.

Q MR. FRAWLEY: That is as a purchaser of oil, is it not, Dr. Boatright?

A Well no, I think not. The pipeline charges include a provision for a deduction of 1, 2 or 3% depending upon the particular instance for pipeline losses; that deduction is made when they purchase the oil or when they take the oil from the producer.

Q That is over and above the pipeline rate which is in the tariff?

A Over and above the pipeline rate.

Q I was calling your attention this morning, that we know in this particular company, that the deduction is made by the Royalite Oil Company and the purchaser of crude?

A Yes.

Q And we also know in this case that the oil as soon as it begins to move out of the producers' tank it becomes the rpoperty of the Imperial Oil Company?

A Yes.

Q So that the Royalite Oil Company purely is endeavouring to protect itself against that contingency, that it will not be able to deliver to the Imperial Oil Company's tanks in East Calgary as much as it takes from the tank of the Brown Oil Company we will say in the field?

A Yes.

Q That is what it is doing?

A That is right. That is true of any purchaser, whether it be the Imperial or the Royalite, for this reason, it just so happens that as a result of habit there has grown up in the United States in the oil buiness the practice of taking a deduction from the amount of oil in a tank at the time that tank of oil is shipped by pipeline, that is reflected in the price of crude which the purchaser receives. It might just as well have worked some other way. It might be that the 1% would be taken off the price and that the pipeline itself would then pay a lower price for the oil and absorb the difference at its delivery end; that might have been usually the way it was done but it didn't happen to be done that way. The practice grew up of deducting a certain amount for loss which is inherent in the pipeline business and that loss is stood by the producer of the crude just as a matter of habit.

Q Yes.

[illegible] continuing, that we know

[illegible]

[illegible] and [illegible] purchaser of crude

[illegible]

[illegible]

[illegible] that in [illegible]

[illegible] of [illegible] the [illegible]

[illegible] that the [illegible] rise

with the pipeline itself would [illegible]

the oil and all the interior at its delivery end

might have been [illegible] way it was [illegible] it did

[illegible]

[illegible] as a [illegible]

A That is the way it has grown up in the United States and it is universal throughout the United States. It is a loss which the pipeline has to stand, that is when the pipeline takes the oil out of the tank, stores it and transports it to the other end of the line there is an inherent loss there and just as a matter of custom or habit the producer has to stand that loss; having the benefit of the increased price; otherwise he would have to pay, if it was handled some other way, that is what it all amounts to.

Q If the Royalite Oil Company did not have any pipeline but was acting just as a service department of the Imperial Oil Refinery and used a fleet of trucks to go around to the various tanks in the Turner Valley and take the oil that way and truck it to the Imperial Oil refinery, there would of course be no, there certainly would be no pipeline loss but there would be some more adjustments to be made, would there?

A I do not know that I can answer that question too well, except by personal experience, that gasoline shipment, whereby the gasoline is gauged in the tanks of the truck and in that condition it is paid for at that rate, but you must remember this, that the storage then is provided by the producer and the loss accrues to him because of the fact that he has had to furnish the storage and hold that oil until it is shipped by that truck. In that case he is paying it but he is paying it in oil instead of in cents.

Q I think so far as I am concerned we have been all around it. I do not think there is anything else, unless Mr. Nolan has something.

Q MR. NOLAN: I was going to ask you, Dr. Boatright, if I might, you went out to tho Turner Valley

and looked at this gathering system and the pipeline system of the Royalite Oil Company?

A Yes.

Q What would you say, Victor, as to the adequacy and the effieiency of the present pipeline facilities provided by the Royalite Oil Company?

A I think they are excellent.

Q You think they are excellent?

A Yes.

Q You know something of the practices of this pipeline company?

A Yes.

Q You have studied that?

A Yes.

Q And we have heard much about it here?

A Yes.

Q Would you say that the practices of the pipeline department of the Royalite Oil Company were in accordance with standard pipeline practices?

A Yes, I would.

Q In the United States?

A Yes.

Q You would say that without hesitation, Dr. Boatright?

A That is right.

Q Thank you very much. Dr. Boatright, you were discussing with the Chairman of the Commission the probability of the area in the Turner Valley which we have been discussing all these days, being fully drilled up?

A Yes.

Q Have you any figure that you would care to give us or any estimate that you would like to make as to the number of new wells that would have to be drilled per year to fully

drill up this area, on an average, Doctor?

A I am not trying to avoid your question but I do not believe that I can answer it. I wonder if you would read it to me.

Q Here is the point, Doctor, you say the field will be drilled up?

A Yes.

Q In the future?

A Yes.

Q It is going to have a certain number of wells?

A Yes.

Q How many per year?

A Well I do not know that I can give it to you per year unless you tell me the amount of production per year you wish to obtain. In other words the number, how long it will take, is a function of how much production per year you want.

Q I suppose that is right, but if we take 6,000,000 barrels?

A I believe that Mr. Davies gave a figure of 30 wells but I have not checked it and I would have to. I would ~~be glad~~ to do it for you but I do not believe I can do it off hand. I would have to do some figuring and I have not figured that.

Q Would it be about right to say in your opinion it would take from 20 to 30 wells per year to drill up this acreage; and maintain the present rate of production?

THE CHAIRMAN: The importance attached to the question would depend upon if the witness would take time to prepare his answer to it.

WITNESS: I would prefer to figure it and then I would be glad to answer that.

Q MR. NOLAN: Yes, turning then to another thing, you have eliminated "storage" which we have heard so very much about?

A Yes.

Q And you have given your reasons for its elimination?

A Yes.

THE CHAIRMAN: You mean new drillings?

MR. NOLAN: Beg Pardon?

THE CHAIRMAN: When you said 6,000,000 barrels, did you mean new drilling?

MR. NOLAN: Yes, over and above what we have got. There was a figure given by Mr. Davies and I wondered if Dr. Boatright differed greatly from it or if he could subscribe to it and perhaps that would be of some help?

MR. FRAWLEY: You did not mean 6,000,000 more. You take it in 1938, 6,000,000 you mean to maintain that?

MR. NOLAN: To maintain 6,000,000 barrels per year.

THE CHAIRMAN: I think we will take a little time and let the witness answer that. I would like to know the answer to it.

WITNESS: That would be quite a job and I would like, I would be glad to bring it in in the morning, because I would like to refer to records.

THE CHAIRMAN: All right.

Q MR. NOLAN: When you eliminated our terminal storage and gave your reasons for its elimination I think I understood you to say that that elimination was as the pipeline is being operated at the present time?

A That is correct, yes.

Q That is right?

A Yes.

Q So that if we find ourselves in the position of a common carrier and taking production from other customers than the British American and Mr. Plotkins, you might have different views about this terminal storage?

A Yes. I didn't intend to make any statement that pipelines do not sometimes furnish terminal storage.

Q No.

A But in advising Mr. Morrison that it was my opinion that the rental charge which is being made now was not justified I had reference only to the conditions as they exist at the present time.

Q Quite. Then you and I understand one another perfectly well. There are three customers of this line?

A Yes.

Q On the basis of those three customers it is your opinion that the terminal storage should be eliminated?

A That is correct.

Q If in the future there is a change in the number of customers different considerations would apply?

A Certainly.

Q Doctor, you told the Commission a few moments ago that these line losses of 1%---

THE CHAIRMAN: Can we find out right there, if I may interrupt you?

MR. NOLAN: Yes.

THE CHAIRMAN: That is the usual thing with pipeline companies, some do and some do not you say provide terminal storage but in the main do they or do they not?

A In the main they do not when they are delivering the oil yo the refinery. If they are delivering to anyone else, as a

general rule they do furnish storage up to a reasonable amount. In other words if this pipeline were delivering to tank cars at the end of the line and for shipment to customers at somewhere else or if they were delivering to a boat or a thing of that sort it is perfectly normal for them to furnish storage for gauging and loading and they do that but where the pipelines deliver primarily to a refinery and ship right directly to the refinery, it is not common for them to furnish the storage at the refinery. It is common practice for the refinery itself to furnish that storage, which in turn furnishes the storage for the check gauging.

Q MR. NOLAN: Dr. Boatright, you were saying to the Chairman or the Commission that these line losses of 1 to 3% were the universal practice?

A Yes.

Q I think, I take it that has been fixed in the United States at either 1, 2 or 3%?

A Yes, they are fixed---

Q By what body?

THE CHAIRMAN: Let him finish his answer, I do not think he had finished his answer.

WITNESS: They are fixed depending upon the area and the conditions under which they happen to be operating, that is the figures, 1, 2 and 3, they are used in various parts of the United States.

Q But they are universally used because they have been laid down by some governmental body or utility board?

A They have been reviewed in a great many of the cases by public utility boards or interstate commerce commissions or something of that kind.

Q What is the interstate commerce commission?

A It is a body for the control of interstate commerce; any common carrier in interstate commerce is under its control.

Q But it would have to be a common carrier beyond the confines of a particular State?

A Yes, within the State, inter-state is under the States regulatory body which may or may not exist.

Q And which are usually called utility boards of one kind or another?

A Yes.

Q Part of whose duty it is to review not only the rates of the pipeline, but the pipelines themselves, and the rates I take it which are being charged?

A Yes, I imagine so, yes, I can say "yes" to that unqualifiedly.

Q What I am trying to get at, Dr. Boatright, and put me right if I am wrong that this 1 to 3% has received some approval?

A Yes, it has.

Q By some utility board in the States or by a number of them?

A Yes.

Q Quite. You were saying that you had had some experience of pipelines in the United States and you know something of the rate charged there?

A Yes I do.

Q Can you think at the moment of any pipeline operation with a gathering system that is comparable to ours, I mean by that, in mileage, Dr. Boatright?

A Yes, I can think of several lines. I believe I have

some records concerning lines less than 100 miles in length.

Q I was going to ask you this, what is the usual rate permitted either by your inter-state commerce commission or by your State Utility Tribunal?

A I think they run from a minimum of, I believe 7½¢ to a maximum of about 17½¢.

Q Yes, and is that pipeline transportation?

A Yes.

Q What about the gathering charge?

A No that is including gathering charge.

Q From about 7½¢ to 17½¢?

A That is about the spread. I looked over quite a number of reports and I believe that covers the spread pretty well.

Q In some instances, am I not right in saying that the rate as fixed by the inter-state commerce commission is broken up into gathering charge and trunkline charge?

A Yes, you are right.

Q And that in a great number of instances it is 5¢ for gathering and 10¢ for trunklines?

A That is right; there are several instances in there that I saw that do exactly that.

Q Now when you were discussing these pipeline losses I think, I understood you to say that the figure of $83,000.00 was ample, you said "ample" did you not?

A The figure was $114,000.00 I believe.

Q Yes, but up to the end of the year. We had the figure here of $83,000.00, $83,000.00 for the nine months period just taking it on the nine months period?

A Oh I see.

Q You know what I mean?

A Yes.

Q As was disclosed in Mr. Morrison's report. You realize of course by reason of the deductions which have been made, that it would be very much less for the year 1939?

A Yes I do.

Q It would be reduced to a point approximating $33,000.00 for 1939?

A I believe that to be about right.

Q Would that be sufficient in your opinion?

A Sufficient for what?

Q For the purposes of protecting the company in pipeline losses?

A It would seem to me, in view of the reserve which has been built up that that would be sufficient, always bearing in mind that if you are forced to go under a rate which is set by the Commission such as the one now in session---

Q Yes.

A That in the event your losses proved to be more than the figure which of necessity must be arbitrarily set, it would seem to me that any decision would of course include a right of appeal in the event that that proved to be too small.

Q Yes.

A In other words that is a perfectly legitimate charge and you are certainly not entitled to lose on it, and it is not intended as a profit-making thing, either, it is simply a thing to take care of losses if and when they occur.

Q Quite so but in your opinion it would not be fair to the company to discontinue it at this point?

A Oh no.

Q This pipeline loss of 1%?

A No.

Q Because there has happened to have been a profit in 1938?

A Oh absolutely not, it seems to me that this particular charge as I said before is a part of the overall profit of the company, of the pipeline company, in spite of the fact that it is a separate charge for a separate purpose and it is put in there with the idea of protecting the company from these losses and it is not the intention on the part of the company to make a profit on it and on the other hand you are certainly entitled to making that provision to take care of any possible loss and it seems to me that that should be a part of the consideration of the Commission in setting the pipeline rate.

Q And in fixing the rate for the pipeline, Dr. Boatright, is it your opinion that this Commision should take into consideration what the profits of this company have been on its pipeline operations during the last few years?

A No, I feel this way about it, it seems to me that up until now your pipeline company has been an individual profit-making institution, a portion of the company and the fact that that was a profit-making business does not mean a thing to me, it was a perfectly legitimate undertaking and the mere fact that book figures show that equipment has or has not been paid out in my estimation makes no difference insofar as setting the

rate is concerned. That profit accrued and it is there. It is past. The company was entitled to make it and regardless of whether you made 30¢ a barrel profit or 10¢ a barrel profit and charged it all to depreciation of equipment and paid the equipment out four or five times, or whether you only depreciated your equipment with 1¢ and called the 29¢ profit, I do not believe it should have any bearing so far as setting this rate is concerned. It seems to me that a proper pipeline rate depends primarily upon the value of the property and the life which it is expected to lead. Now that value may be determined in several ways and I feel that the only necessary concession insofar as its profits are concerned, is that we should take into consideration a reasonable deprecation on those properties which is set for the future as well as for the past at this time and that that should be the basis of the rate.

Q Yes.

A The profits which have been made in the past are of no importance in that respect.

Q And following that to a conclusion, Dr. Boatright, if the company had made losses in the past it should not be entitled to recoup itself from any rate base.

A That is correct.

Q I mean it would follow one way as the other in your opinion?

A That is my opinion, yes.

MR. NOLAN: I wonder if I might ask my friend, Mr. Frawley, if Dr. Boatright intends to comment on Mr. Hill's report?

MR. FRAWLEY: No except insofar as he has now commented on it because he does not think the idea of taking a ~~percentage~~ present day valuation is right.

MR. NOLAN: No. But will Dr. Boatright talk about that later on. How will that discussion arise perhaps. I might inform the Chairman that Dr. Boatright has been reading this report and has examined it I think with great care.

WITNESS: That is correct.

MR. NOLAN: And probably has something to say about it. I wondered if he intended to do that now or later or at all.

MR. FRAWLEY; No, I do not think he is intending to say anything about it. I intended to ask him a question which may probably lead into it.

MR. NOLAN: Perhaps you might do that.

Q THE CHAIRMAN: Just before you touch that report, you say that the profit or losses should not be taken into account in fixing the rate.

MR. FRAWLEY: I was going to ask him about that too.

Q THE CHAIRMAN: But do you believe in amortizing the line and depreciating it until it is all paid out?

A Yes, and I might---

Q You cannot do that with losses but you can with profits.

A No, but you can do that in arriving at the present value of the plant, regardless of whether you made a profit or not. Maybe I had better explain what I mean.

Q Please.

A In arriving at the present value for rate-making purposes we have opened to us several channels, one which has been subdivided by the two sets of accountants, I under-

stand Mr. Morrison has presented one method that is by setting up a reasonable future life of the field and seeing this equipment was bought back here at certain intervals and that we reasonably assume that that is going to last whatever the life of that field is, therefore we will, sir, allow depreciation off that equipment each year up until now in order to find the true value at the present time.

Q Yes.

A That is setting then a reasonable rate of depreciation over this whole life of the utility. Now that in my estimation---

Q Starting from the very beginning?

A Right. Right at the very beginning and taking the cost price of that equipment and only the cost-price of equipment which is now in use and not discarded. For instance, the particular instance I have in mind is the 6" loop which was put in and then was taken out and is one of those losses to which you refer. Now that is not in the system at the present time and therefore I think that should be eliminated from our bookkeeping but for instance if bought in 1925 and that pump is operating now and is in good condition and can be expected to last the rest of the life of the field, and supposing we assume the life for the field of 20 years from right now and that pump is already 13 years old, then the total life of the field would have been 33 1/3 years and that pump as of now would have been depreciated 3 1/3 times 13% to arrive at its value right now and then in the future would have a depreciation at that same rate, and to me that is the fairest way and the most correct

way of arriving at a value of the property for rate-making purposes. There is another method of doing that same thing which I understand the other accountants will present and involve minor or different accounting methods in arriving at that same thing. Then there is the other method whereby a physical valuation of the pipeline system is made by a competent engineer and I understand that, in fact I know that is what the Royalite have presented as another alternative or will present as another alternative. Now that takes the real physical value of the equipment right now as being the base for rate-making purposes in the future. Of necessity a thing of that sort is the result of the engineers' opinion and it does not take into consideration anything that has gone in the past. We arrive right here with the present value and if that estimate is good, that is the present value based upon replacement at the present time but it does not take into consideration the inherent errors of the past which I think should also apply. In other words we, our future is uncertain and we come to this particular point, now it is just a question whether you want to say "well the field's life is 33 years" or "the field's life from now on is 20 years". If you take that stand then the present value of the property as should be determined by a competent engineer is the proper basis to take but if you say the errors of the future should also, ought to be applied to the past, in order to level the thing out and make it uniform all the way through then the method I am suggesting is the one which should be used and that

is the one which I think is the fairest, to take the life of the equipment, determine it to whatever point we feel is safe and depreciate it on its straight line basis throughout, that is my opinion of the fairest way of doing it.

Q Now that being so, have you ever considered the value,- the first thing you say, that is on a cost basis?

A That is on a cost basis.

Q Have you considered the life, not the life of the field now but of the equipment?

A Yes, I think that Mr. Coultis himself made the statement that you see as it wears out and has to be replaced that is charged to operation, therefore the life of this pipeline is indefinite and will cover surely the life of the field and the additional cost necessary to keep that up are thrown into operating expenses anyway and are therefore accounted for in your costs for rate-making purposes.

Q Let us assume that this pipeline has been in existence, the system has been in existence for 10 years and during that period of time the pipeline company had depreciated it up to say 10% per year?

A. Year.

Q If they had put that into a fund each year, a depreciation fund, at the end of the 10 years it would have been fully paid for?

A That is correct.

Q Over and above whatever profits or losses they may make in operation?

A That is right.

Q All right. You are called on at the end of that 10 years

knowing those facts?

A Yes.

Q To strike a rate, in considering what their profits would be, would you take the present day percentage value of that line and start from there, just as though they had not got all their money back?

A No, I would start from scratch and let us assume that we have an additional 20 years on top of that 10 years and I would say that the life of that equipment, we are now at the end of the 10 years and have 20 years' life I would say this, that the proper method of arriving at the present value at the end of 10 years would be to take that 30 year period, divide it into 100%, and that would give you 3 1/3% depreciation in a year, so in fact I would take 1/3 and 2/3 the cost of the original cost of that equipment and say that is the present value now because of this fact, supposing that they had already set aside in a depreciation fund more than enough to amortize that equipment up to now but in doing that in their books, because of a poor bookkeeping system, they had actually shown a loss---

Q Yes.

A Then in that event they simply made a wrong charge in their books. They actually got the cost of that equipment back and yet their books show it was all applied against depreciation and none of it went into profit, where as as a matter of fact the whole thing is profit. It is just a matter of bookkeeping, what they did with it.

Q I see.

A And it does not seem to me that should be considered.

Q So you would start from the moment that any capital in-

vestment was made?

A That is right.

Q And so on?

A And depreciate that up to the end.

Q Yes, you say you would depreciate it roughly from the time the first capital investment to roughly 19 years from now?

A That is right.

Q MAJOR LIPSETT: Let me put an extreme case to you, Dr. Boatright, supposing that, because the life might be considered very uncertain.

A Yes.

Q Supposing that, take in 1938 or 1937 the company said "well we will fix a rate that will give us 100% on our capital outlay on a new pipeline this year".

A Yes.

(Page 2398 follows)

Q And they put in that new pipeline?

A Yes.

Q Fixing a rate so that it will pay that off 100%, should we take that into consideration in fixing a rate or should we say that it was really profit, was a capital investment, and that we should take that now and repay it a second time over these next fifteen or twenty years?

A My feeling is this, that regardless of how much money they made in that particular year they only properly suffered a certain percentage of depreciation. Undoubtedly, they made lots of money but, after all, the application of that money to amortization of costs is purely a bookkeeping procedure and if their bookkeeping procedure was faulty I do not believe that they should be penalized for it now when we come along to making a rate. Supposing they made enough to pay up all the equipment which they had in any one given year, actually that equipment only suffered a certain amount of depreciation during that year and the rest was profit. Now, regardless of what they call it....

Q I am putting it to you from a slightly different angle. Supposing the viewpoint was taken that the life of the field was so uncertain that if they embarked upon this, which must have been a very speculative venture from that point of view?

A Yes.

Q That they would only embark upon it providing they could fix and charge a rate in this hypothetical year which would give them the whole money back?

A Yes.

Q And that that rate covered not only the carriage of the

oil but covered the whole of this new pipeline and which had been charged to the producer, should we not take that into consideration now at all in fixing a rate?

A I think not, unless at the time that rate was set it was under the same condition as it is now. In other words, had a Commission set it on that basis then I would agree with you but, after all, that was an individual company operating at that time and we have no way of knowing what their ideas in back of setting that rate were. The fact remains they did set a rate which may or may not have amortized their investment up in that year, but, nevertheless, at that time that rate was not set by and given the authority of a Commission. Had they pleaded that ease before a Commission and the Commission as a result of that pleading had set that rate for them then I would agree with your hypothetical case, but if it were a private company that set the rate without any interference by a Commission in any way, then it was just a matter of that company making its profits, which conditions enabled them to get, and in spite of that fact they only had a certain definite amount of depreciation, and coming now to a consideration of that company it does not seem to me that it is right to say they did suffer more than that certain amount of depreciation during that year, regardless of what their profits were.

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Q MR. FRAWLEY: In other words, if the circumstances were that in 1936 this company had gone to the Public Utilities Board and Mr. Carpenter had looked at your scheme of arrangement and had put his approval on the, whatever it was at that time, on the 22½¢, and then he had similarly approved the 17½¢ and the 15¢ at those different times, and we still had to face the task to-day that we are facing, you would give them nothing at all for amortization?

A That is right.

Q If that had been the case, and everything else being the same, you would say now to Mr. Morrison and this Commission that they should make no allowance whatever for amortization. But you say the circumstance simply was that they did not go and nobody took them to the Board at that time and they made a charge as they saw fit and which we now know and you see was one that made big profits for them....

THE CHAIRMAN: There is no magic in the Board doing it. That is only on the supposition that the Board in fixing the rate would be amortizing, would be giving them back the capital invested over a period of time fixed by that Board and when that time had expired, from then on it would be what would be a fair charge for the service because the Board might arrange that the capital be returned?

A Yes.

Q MR. FRAWLEY: I merely meant that the Board would then have to approve of an amount for amortization?

A Yes. That is, in effect, all it would mean.

Q As the Chairman says, it is the company doing it. It is the company amortizing its investment?

A Yes.

Q And you say that the circumstance, if that is not too light

a word, the circumstance of the Board being there to approve that company amortizing that investment, that would make all the difference, in your opinion?

A Yes, sir, because of the fact then the price that is paid for that barrel of crude includes a certain amount for profit and a certain amount for amortization. And that is the basis on which they get that price.

Q You say this expression of getting your money back is at best a colloquialism?

A Yes.

Q It simply means that the company's profits have been over the period under review in excess of the capital investment?

A No, it does not mean even that. It simply means this, that through faulty bookkeeping the profits are not the correct amount. A certain amount has been set aside, an improper amount has been set aside for depreciation of the capital investment and if that bookkeeping system is wrong it does not seem to me that the company should be penalized.

Q This company has divided their excess of revenue over expenditure into two things, some profit and some amortization?

A Yes.

Q They have been all wrong in the amount they have put into the amortization account?

A That is right.

Q But that is all previous, as far as you are concerned?

A Yes, sir. Except that the small amount of amortization expense, which I think is right.

THE CHAIRMAN: Why does Mr. Morrison start five years from the beginning?

MR. FRAWLEY: Five years?

THE CHAIRMAN: It is five years.

MR. FRAWLEY: In fact it is eighteen. His five is eighteen and his ten is twenty-three and so on, because he goes back thirteen. He goes five forward and thirteen back each time.

Q You say that is the system you, in any event, would endeavour to have and is that what Mr. Morrison has done?

A Yes.

Q But it will enter into the rate now?

A Absolutely. That is one of the things that occurred that they are not entitled to take into consideration any more than we are entitled to take into consideration excess profits.

Q To put it another way, if this were an application by the Royalite Company to this Commission to approve of this 10¢ rate, assume that is what it was. They would say to the Board, for easy figuring, "We want 5¢, because that is what it costs us to operate." The Board, in their opinion, would say "Yes, we will let you have that"?

A Yes.

Q And if they say "We want 5¢ more because we think that is a proper return on our investment" and the Board would say "Yes, you can have that"?

A I might not agree on the amount.

Q Whatever that figure might be. And the other 5¢, they say "We want that because we want to amortize our investment." It would not shock you at all. You would not tell them to get out because they already had their money out?

A Yes, on the principle that.....

Q I mean that now in the light of this experience there is nothing surprising that this company should come to this

Board and ask to be permitted to make an annual charge to amortize their investment?

A I think so.

Q Even though, as we may describe it, the investment has been completely amortized?

A By faulty bookkeeping.

Q You say that is just faulty bookkeeping?

A Yes.

Q Some went into profits and some went into amortization?

A Yes.

Q THE CHAIRMAN: Well, would it then at the end of nineteen years be fully amortized?

A Yes.

Q At the end of the nineteen year period if they wanted a rate then would you start all over again?

A No, sir.

Q MR. FRAWLEY: What would you do then?

A After the amortization is all done, it is just their costs.

Q MR. FRAWLEY: That is how it works....in other words, just to follow it out, if this Board takes any one of these figures, any one you like, and we run that through that ten or five or twenty years and we find there is still a good line there and Mr. Coultis is still pulling oil through it. Therefore, he has to ask for another rate?

A Yes.

Q There is no more amortization charge. That is the end of amortization?

A Yes.

Q THE CHAIRMAN: It would make a terrible difference in your view of the circumstances if there was no Board in the beginning to fix a rate, including depreciation?

A I feel this, that the profits that they show because of their bookkeeping system were faulty. I do not feel it is right to penalize them for that reason.

Q MR. FRAWLEY: But suppose the Board had looked over this thing?

A But the Board did not do it.

Q But if the Board had done it in 1926 and saw that as the way you see it, and they had done it that way, then you certainly would not give them another cent of amortization now?

A No, absolutely not.

Q If they had gone on in their own comfortable way, committing this error in bookkeeping, you say we are going to review it all and put the depreciation where it should be and the way Mr. Morrison has done it and project it in the future, when that period is finished that is the end?

A Yes, sir.

Q And then the charge would be, as the Chairman says, some operating costs and return on the investment, but no amortization?

A That is right. Well, the return on the investment would ba amortization. Oh, no.

Q You would still have return on the money?

A Yes.

THE CHAIRMAN: Well, it is an interesting view. As I understand you, if they put aside 10% depreciation, that is, they of their own free will put aside 10% for depreciation and they made 50% profit as well?

A Yes, sir.

Q Would you say "Well, we must not let them suffer for their error. We will give them 58% profit or whatever it may be."

A That is right.

Q And the rest to go to depreciation?

A Yes, sir.

MR. FRAWLEY: That is it, exactly.

THE CHAIRMAN: Well, I understand it.

Q MR. COMMISSIONER LIPSETT: But supposing, Dr. Boatright, to put a case which has never even been suggested in considering, as we are bound to do the present rate to charge, that it was proved to our satisfaction that the rate charged, - this is entirely supposition and not even a suggestion that this was done - but supposing we found it was the case that the rate charged was three times too much in the past and that that overcharge was used to put in a second line. Does your view go as far as to say that we should not take any consideration of that at the present time?

A Yes, sir, for this reason. I feel that up till now that company was primarily a profit taking company. It was not subject to regulation of any Board and were not in the position of having to justify these charges except by public demand. In other words, the public was not forced to pay that price. It was a price which was set for themselves, for those services, and they had a perfect right to do that. If the public thought that was too high, the public had a perfect right not to ship oil through that pipeline. They did ship the oil through that pipeline at the price which the company had set and it does seem to me that in setting a rate for the future and arriving at a present value, that what those profits were are of no account at all. That they were things that arose by means of that particular business and regardless of where the profits went, whether they were placed into amortization of investment or it went into profits, it does not seem to me to enter into the

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problem of arriving at a proper present price for the future.

Q THE CHAIRMAN: The distinction iw really as to whether or not that 10% annual depreciation was set by a Board or set by the company itself?

A Yes, sir.

Q If set by a Board when the company first set it then you would say they would not be entitled to any amortization?

A Yes, because to justify that rate they would have to bring evidence of the life of the field and arrive at the life of the field and it would be the basis of that amortization. It would be the same condition then in that case that they will be in nineteen years from now if we adopt the plan we suggest.

Q MR. FRAWLEY: I suggest this may be said in fairness to the company, if it had been set by a Board perhaps there would have been some way of the Board checking up to see how wrong it was and it would call them in again, perhaps, and change the rate?

A There is the further point that illustrates very nicely what I am talking about. A percentage of this so-called profit was taken out of one pocket and put into the other in the case of Royalite. It does not make any difference but it illustrates the point which is purely, this profit and amortization, it was purely an arbitrary thing as far as the company was concerned. As far as at least 70% of it was concerned, it was just a matter of shifting the accounts around.

Q MR. FRAWLEY: Where do you get the 70%? You mean the British American and the Lion?

A No. The Royalite in....

Q Oh, the share of interest in the Royalite?

A Yes.

Q You said a moment ago that had been charged to the public, this rate. In point of fact it was the Imperial Company that was paying almost wholly 100% of the rate until just a matter of a few months ago?

A Yes. In other words, this just illustrates the point I am making, it was faulty bookkeeping.

Q MR. COMMISSIONER LIPSETT: Does not it extend further than that? One of the things we are asked to enquire into is whether these existing pipeline facilities result in an unwarranted control of the price of crude petroleum or refined petroleum products.

Q You suggest that it makes no difference because it is only a matter of between one pocket and another. But supposing instead of $800,000.00 there was $5,000,000.00 profit taken, would not that have a serious effect on the price of refined petroleum products in the Province?

A It would.

Q If the rate right now, if the 15¢ rate is too high it is having an effect on the price?

A Not necessarily. It will have an effect on the price that is paid for the crude.

Q And the ultimate cost of the refined product?

A Oh yes.

Q Supposing we found that the rate was very substantially excessive and that the existing rate was used for the purpose of extending its control or extending its pipeline system, don't you think we should have some regard to the realities of the fact that possibly no competition could

ever arise?

A No.

Q Or do you just say we perpetuate it even if we found it wrong?

A No. We would stop the abuse. Stop the abuse, by all means.

Q THE CHAIRMAN: It is just too bad no one intervened before.

A No one intervened before, although the authority was there to intervene. In other words, it seems to me what has gone on in the past was open to public investigation if the public felt it was needed, and they did not feel it was needed. The company was allowed to go ahead. Now, we come along this time and we say "We are going to stop this bad practice and we are going to protect the public in the future. We are trying to arrive at a reasonable basis for giving you a proper return on the money which you have spent in this field and you have spent between one million and two million dollars in equipment."

Q MR. COMMISSIONER LIPSETT: But whose money, ex-hypothesis?

A Well, it might have been their own money or it might have been somebody else's. It was out of profits.

Q On the hypothesis that I was putting to you, which I wanted your opinion on, the hypothesis was that this money was received out of a rate, which we will presume for this purpose was too high?

A Was too high.

Q And taken from the producer?

A Surely. But I look at it from this angle. The rate was too high. Whether it was $15.00 or $10,000.00 or $1,000,000.00, the amount does not matter. But in considering that the rate was too high there were two ways open. In the first place the producer did not have to ship the oil through

that pipeline if he did not want to. And if the public thought it was too high they could have had an investigation at that time just as well as they can now. The company is a commercial company interested in making a profit and the greater profit they can make the better satisfied they will be. They are in the business for making a profit. All three people involved had recourse in the event they thought it was unfair. Now, they did not take advantage of it. The public did not appoint a Commission; the producer went ahead and shipped through the pipeline, although he was not forced to do it, and the company took the profits. That was the business they were in. Now, therefore, the public comes along and says "You shall not be permitted to do that any more." Now, we come to what is a fair rate for the future. During all this abuse time there was a certain amount of engineering depreciation that went on in this equipment. After all, it is the engineering I am interested in. We come in here and say "We are come here and we are right here to see what is the value of this property for rate making purposes in the future. You have abused your privileges in the past but we are going to go over the whole thing and in doing that we have to set a fair rate for the future, still it means going into the value and the rate for operating, maintenance, return on investment and amortization." It seems to me we are primarily interested in setting a reasonable rate throughout the life of the field and saying "You will, therefore, go ahead on that basis." And that is the angle I have in mind in answering your question, regardless of whether the amount was $10.00 or $10,000,000.00.

Q Suppose we held, or thought that the existing 15¢ rate was

fair in the past and that as a result of that rate there is another seven hundred or eight hundred thousand dollars of capital invested last year earned out of this 15¢ rate and put back into the business?

A Yes.

Q Would we then have to on that hypothesis, should we increase the rate above 15¢ to take care of this seven or eight hundred thousand dollars of profits already acquired out of the 15¢ rate and plugged back in?

A Yes, I think so. If it was capital invested.

Q THE CHAIRMAN: You say they put their money in there just as though they had never gotten it from pipeline operation?

A Yes.

Q It was theirs?

A That is their money regardless of where they got it. If they invested it in a capital investment they are entitled to a reasonable return on it from the time it was put in until it is through.

Q Regardless of the source of the money?

A I would feel the same way about it if the money were stolen from the Bank, if they put it in there it is a capital investment. Certainly, any capital investment from a business standpoint is entitled to receive a fair rate of return.

MR. FRAWLEY: That is consistentcy at least.

Q MR. COMMISSIONER LIPSETT: I do not think you would like really to put it as far as that, because in that case if it were stolen from the Bank, as you say, probably the people who owned the money would be entitled to go after it and get it back?

A Yes, or the man that took it.

Q Without putting it so far as being stolen. Might there not be a similarity that the people who provided this money, through, ex-hypothesis, excess charges, the last year or two, haven't they a claim to some consideration or do you think not?

A No, I feel not. I did not mean to be facetious.

Q No, I am sure.

Q THE CHAIRMAN: Would you say there is no such thing as an excess charge where it is a matter of private treaty?

A That is my feeling.

Q MR. COMMISSIONER LIPSETT: Not where it is capital or where it is a case of a powerful organization being able to put in this pipeline that nobody else could put in?

A Up till now, yes. That is the way I feel. Now, in the future that is a different story.

Q I understand that. There are just one or two other points I want to ask you about before you go. It is in reference to some evidence you gave on the question of this profit and loss arising out of the funds of the pipeline loss. We had on page 8 of Mr. Morrison's account, which I think you have there, Dr. Boatright?

A Yes.

Q We have the losses shown to the fund in the years 1933, 1934-5?

A And 1936.

Q A very small one in 1936?

A That is right.

Q Would you look at his page 26?

A Yes sir.

Q For those three years, 1933, 1934, and 1935, to begin with?

A Yes sir.

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Q Take the year 1936 first. The deliveries to gathering system, products from which a deduction for line losses was made?

A Yes sir.

Q As set out as so many barrels?

A Yes sir.

Q And then there is a line "Products from which no deduction for line losses was made." 183,559 barrels?

A Yes sir.

Q Now, would there be losses on that absorption naphtha, of which there were 183,559 barrels?

A If that were shipped through the pipeline there undoubtedly would be. But you remember when Mr. Morrison was talking about this sheet he stated that up until the beginning of 1937, I believe, that no deduction, no account was kept of the line losses. The Royalite just took the oil and made the deduction all right from the field, but there was no accounting for those line losses so far as return was concerned. The extra oil went into the refinery and there was no charge made for it.

Q The Imperial took the losses up until 1936?

A Yes sir.

Q What I was getting at, on the actual loss, would the fact that no deduction was made in the case of absorption naphtha, would that explain the losses in the earlier years?

A Well, it very possibly did. It might have.

Q In other words, we have the figures that when the charges were made in 1937 and 1938 there was a substantial surplus?

A Yes.

Q But before that there was a loss to the fund?

A Yes.

Q I was just trying to get from you as to whether the explanation of that earlier loss was owing to the fact only part of the product went through the pipeline and gave this deduction?

A I did not analyze that before and I have not made any calculation in that respect. I shall be glad to do that to-night, and answer your question in the morning.

MR. FRAWLEY: Mr. Morrison tells me he can answer that for you.

Q MR. COMMISSIONER LIPSETT: There is just one other thing that, perhaps, you would tell us in the morning too. You told us about these terminal charges at the Turner Valley end and that they were properly included in the pipeline rate. The gathering charges?

A Yes.

Q At the Turner Valley end?

A Yes.

Q I would be glad if you would give us the benefit of your experience as to the other end, that is, at Calgary - the practice in the States supposing that delivery is made to one, two, three or four refineries at this end, at the refinery end. What would be the practice?

A They make no charge. There is no charge. They do not furnish storage at the refinery. Their lines lead right into the refinery, right to the refinery tanks,and it goes into those tanks and it stops there. There is no further charge in that event. If, however, it goes in a tank and is shipped, they do make a so-called loading charge.

Q But if it is to the refinery they deliver it, direct to the refinery?

A Free of charge.

Q For the pipeline charge?

A Yes.

Q Would you apply that then as between the Imperial's own refinery here in Calgary and the Lion Oil's refinery in Calgary, as to what the principle would be?

A Well, in that particular case, there is an extra pumping goes on, The oil is shipped from the field through the Royalite's lines and into the refinery at Calgary, into the Imperial Refinery, for that 15¢ charge. That puts it into the refinery at $1.35. Now, at the time the Lion Refinery wants any oil that is taken out of the Imperial's tank, put into a pipeline by the Imperial and pumped to the Lion Refinery, for which a charge of 6¢ is made, which, presumably, covers the transportation charge plus the necessary storage charge involved in that oil.

Q Well, the practice in the States, which you have been accustomed to, would it be done that way or would there be separate lines to each refinery?

A Ordinarily there would be a separate line into the different refineries; providing the Lion Refinery had storage facilities, then in that event the line ordinarily would lead into the refinery if it was available, and did not involve laying another extension of the pipeline some place.

Q Of course, we do not know, because we have not got that far yet?

A No.

(The Investigation was here adjourned to be resumed 10:30 A. M. January 19th.)

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